FINAL
ENVIRONMENTAL BASELINE SURVEY (EBS)
FOR THE NAVAL TRAINING CENTER - BAINBRIDGE
PORT DEPOSIT, MARYLAND

Contract No. N62472-92-D-1296
Contract Task Order No. 0059

Prepared for:

Department of the Navy
Engineering Field Activity Chesapeake
Washington Navy Yard
901 M Street, SE
Washington, DC 20374-5018

Prepared by:

EA Engineering, Science, and Technology
15 Loveton Circle
Sparks, Maryland 21152-9201
(410) 771-4950

November 1999
FINAL
EA Project 296.0059.2390

ENVIRONMENTAL BASELINE SURVEY
FOR THE NAVAL TRAINING CENTER - BAINBRIDGE
PORT DEPOSIT, MARYLAND

Contract No. N62472-92-D-1296
Contract Task Order No. 0059

J. Paul Caprio, P.G.
CTO Manager

Date

Robert S. Pace
Program Manager, Acting

Date

November 1999
FINAL
EA Project No. 296.0059.2390

CONTENTS

CONTENTS (Continued)

LIST OF FIGURES

LIST OF TABLES

LIST OF ACRONYMS AND ABBREVIATIONS

ACHP	Advisory Council on Historic Preservation
ACM	Asbestos-Containing Material
AOC	Area of Concern
ARAR	Applicable or Relevant and Appropriate Requirement
AST	Above Ground Storage Tank
ASTM	American Society for Testing and Materials
BRAC	Base Realignment and Closure Act of 1988 and Defense Base Realignment and Closure Act of 1990, collectively
BCP	BRAC Cleanup Plan
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COPC	Constituents of Potential Concern
CRL	Central Regional Laboratory
CTO	Contract Task Order
DoD	Department of Defense
EA	EA Engineering, Science, and Technology, Inc.
EBS	Environmental Baseline Survey
EDC	Environmental Detachment Charleston
E&E	Ecology and Environment
EFA Ches	Engineering Field Activity Chesapeake
EPA	U.S. Environmental Protection Agency
ERA	Ecological Risk Assessment
FFCA	Federal Facilities Compliance Agreement
FOIA	Freedom of Information Act
FOST	Finding of Suitability to Transfer
FS	Feasibility Study
FTA	Fire Training Area

LIST OF ACRONYMS AND ABBREVIATIONS (Continued)

HASP	Health and Safety Plan
HHRA	Human Health Risk Assessment
HI	Hazard Index
HWS	Hazardous Waste Site
IAW	In Accordance With
IEUBK	Integrated Exposure Uptake Biokinetic Model
IRM	Interim Remedial Measures
IR	Installation Restoration
JOC	Job Order Contract
LBP	Lead Based Paint
LUST	Leaking Underground Storage Tank
MCL	Maximum Contaminant Level
MDE	Maryland Department of the Environment
MHT	Maryland Historical Trust
MTBE	Methyl Tertiary Butyl Ether
NAVFAC	Naval Facilities Engineering Command
NESHAP	National Emissions Standards for Hazardous Air Pollutants
No.	Number
NFRAP	No Further Response Action Planned
NTC-B	Naval Training Center-Bainbridge
OBL	Old Base Landfill
OHM	OHM Remediation Services Corporation
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
POL	Petroleum/Oil/Lubricants
POTW	Publicly Owned Treatment Works
PRG	Preliminary Remediation Goal

LIST OF ACRONYMS AND ABBREVIATIONS (Continued)

QA	Quality Assurance
QC	Quality Control
RBC	Risk Based Concentration
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
SACM	Suspect Asbestos Containing Material
SAP	Sampling and Analysis Plan
SML	State Master List
SSL	Soil Screening Level
STP	Sewage Treatment Plant
SVOC	Semivolatile Organic Compounds
TAL	Target Analyte List
TCLP	Toxicity Characteristic Leaching Procedure
TEM	Transmission Electron Microscopy
TPH	Total Petroleum Hydrocarbons
TSI	Thermal System Installation
UST	Under Ground Storage Tank
VOC	Volatile Organic Compounds

1. INTRODUCTION

This Environmental Baseline Survey (EBS) was prepared by EA Engineering, Science, and Technology (EA) for the former Naval Training Center-Bainbridge (NTC–B). This work was performed for Engineering Field Activity Chesapeake (EFA Ches), Naval Facilities Engineering Command (NAVFAC) under Contract No. N62472-92-D-1296, Contract Task Order (CTO) No. 0059. This EBS summarizes the existing environmental conditions at NTC-B.

The EBS was conducted in two phases (Task 1 and Task 2), each generating individual reports that serve as the basis for this final Task 3 EBS report.

Work completed under the EBS Task 1 included a visual site inspection, interviews, records review, compilation of a records repository for information collected during Task 1, and preparation of a written report: *Findings and Recommendations, Environmental Baseline Survey - Task 1: Naval Training Center – Bainbridge, Port Deposit, Maryland* (EA 1996). The records review included a review of the "Position Paper" [U.S. Environmental Protection Agency (EPA) 1995], a document prepared by EPA Region III in consultation with the Maryland Department of the Environment (MDE). This document outlined existing environmental concerns at NTC–B that warranted additional investigation.

Based on the results of the EBS Task 1 activities, and in accordance with the Position Paper, a scope of work for Task 2 (Sample Collection and Analysis) of the EBS Areas of Concern (AOCs) at NTC–B was prepared. This scope of work was developed following consultation with representatives of EFA Ches, MDE, and EPA Region III. The Task 2 document, *Environmental Baseline Survey Task 2 Analytical Report, Naval Training Center-Bainbridge* (EA 1999a), presented the results of the investigation conducted at the 10 AOCs identified for further evaluation in the EBS Task 1 Report.

This Task 3 EBS Report provides a comprehensive summary of EBS Task 1 and Task 2 activities and identifies the status of other NTC–B environmental activities, including remediation, as applicable up to 1 September 1999. The cut off date for actions reported in this EBS, including studies, reports, and correspondence, is 1 September 1999. This comprehensive summary is used to categorize site conditions in support of property transfer. Ecological issues at NTC-B were not addressed in this EBS. The Navy will submit a separate letter report specifically addressing risk to ecological receptors at NTC-B. Ecological issues for Installation Restoration Program (IRP) Sites 1 and 2 have been addressed in the Remedial Investigation (E&E 1999) and the follow-on Human and Ecological Risk Characterization (EA 1999c) reports.

1.1 FACILITY BACKGROUND

The former NTC–B is situated on approximately 1,250 acres in Cecil County, Maryland, just to the northeast of the town of Port Deposit (Figure 1-1). No Navy operations have been conducted since 1976, when the NTC–B closed. NTC–B was constructed in 1942 as a training center for World War II Navy recruits. The facility was partially deactivated after World War II, but

experienced major activity following the beginning of the Korean crisis in 1951. In the post-war years, NTC–B became the host for various schools and functions, including the Naval Preparatory School, the Nuclear Power School, the Naval Reserve Manpower Center, Chesapeake Job Corps, WAVES Headquarters, and a U.S. Naval Hospital. Operations at NTC–B were reduced in 1972, and NTC–B was formally closed in 1976; however, the United States has retained ownership.

Over 700 buildings and other structures were present on NTC–B prior to the initiation of a building demolition project in 1990 (Figure 1-2). Approximately 60 buildings remain onsite. NTC–B is in a general state of disrepair, with many of the remaining buildings damaged by weather and/or vandals, and portions of NTC–B are overgrown with vegetation.

Numerous contractors have conducted environmental investigation and cleanup operations at NTC–B. OHM Remediation Services Corporation (OHM) completed removal actions for the Navy at the Old Base Landfill [Installation Restoration (IR) Program Site 1] and the Fire Training Area (IR Program Site 2), and Ecology and Environment (E&E) is currently in the process of completing a revised Feasibility Study (FS) pertaining to IR Program Sites 1 and 2. International Crane served as the building demolition/asbestos abatement contractor for the Navy at NTC–B, and Versar Corporation provided oversight of the building demolition/asbestos abatement project. The asbestos cleanup in 1999 was performed by the Environmental Detachment - Charleston.

Portions of NTC–B are used by the Cecil County Community College Truck Driver Training School. The College maintains a truck staging and office area at Gate 14 in the northern portion of NTC–B. Driver training exercises are conducted in the vicinity of the former warehouse area in the northern portion of NTC–B and in the large parking lot adjacent to the main station entrance along Maryland Route 222 in the southern portion of NTC–B.

1.2 CHRONOLOGICAL SUMMARY OF EBS EFFORTS

The EBS process for NTC–B was initiated in 1993 when the Navy performed an initial EBS for transfer. To give some perspective on the overall EBS effort to date, Table 1-1 provides a chronology of the major events and associated reports for the NTC–B EBS process to date.

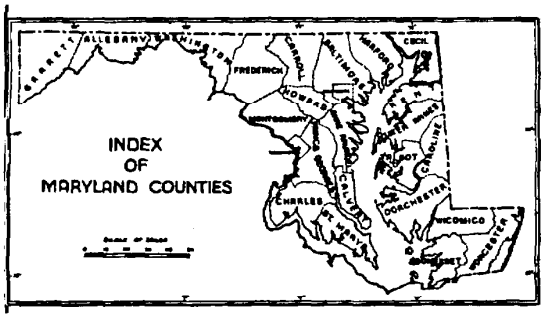
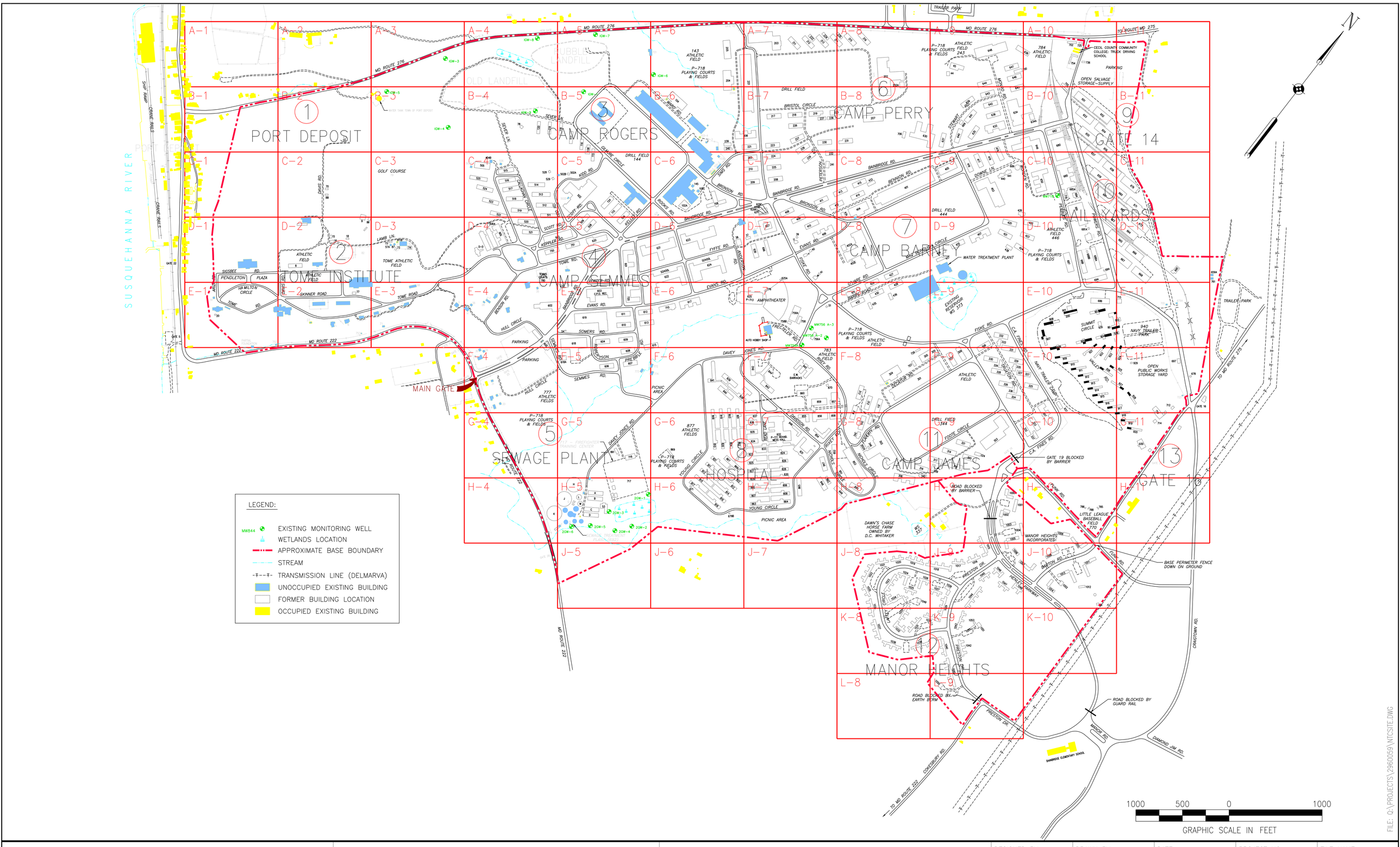


Figure 1-1. Location Map of Naval Training Center - Bainbridge.

F:\2960059\2390\Fig1-1.cdr



LEGEND:

- MW844 — EXISTING MONITORING WELL
- WETLANDS LOCATION
- APPROXIMATE BASE BOUNDARY
- STREAM
- TRANSMISSION LINE (DELMARVA)
- UNOCCUPIED EXISTING BUILDING
- FORMER BUILDING LOCATION
- OCCUPIED EXISTING BUILDING

FILE: Q:\PROJECTS\29600\59\NTCSITE.DWG

EA ENGINEERING, SCIENCE, AND TECHNOLOGY

NAVAL TRAINING CENTER
BAINBRIDGE
PORT DEPOSIT, MARYLAND

SITE MAP OF
NAVAL TRAINING CENTER–BAINBRIDGE

DESIGNED BY	DRAWN BY	DATE	PROJECT NO.	FILE NAME
MGG	JBS	11–18–99	29600.59	NTCSITE
CHECKED BY	PROJECT MGR.	SCALE	DRAWING NO.	FIGURE
JBJ	PJC	AS SHOWN	–	ENCL 1

TABLE 1-1 SUMMARY OF NTC-BAINBRIDGE EBS PROCESS

Date	EBS Activity	Activity Status	Related Report
30 June 1976	NTC-Bainbridge formally closed.	Completed	N/A
1993	Navy performed an initial EBS.	Completed	*Environmental Baseline Survey for Transfer* (U.S. Navy EFA Chesapeake, 20 May 1993)
May-July 1993	MDE reviewed Navy's initial EBS for Transfer Report and provided comments.	Completed	MDE comment letter dated 29 July 1993
August 1995	U.S. EPA Region III and MDE reviewed Navy's initial EBS Report and provided joint position.	Completed	*Position Paper on Property Transfer* jointly issued by U.S.EPA Region III and MDE dated 28 August 1995.
September 1995-March 1996	EBS Task I investigation (pre-sampling records review and site visit) performed for Navy by EA.	Completed	*Findings and Recommendations-Environmental Baseline Survey-Task 1, Naval Training Center-Bainbridge, Port Deposit, MD* Final. (EA, 4 March 1996)
March 1996-March 1997	EBS Task 2 field sampling plan developed for the Navy by EA. Addressed ten AOCs, including Background.	Completed	*Environmental Baseline Survey-Task 2, Sampling and Analysis Plan for Naval Training Center-Bainbridge, Port Deposit, Maryland*. Revised Final. (EA, 26 March 1997)
February-July 1997	EBS Task 2 Field sampling, analysis, and data assessment performed in accordance with 26 March 1997 Sampling Plan.	Completed	*Environmental Baseline Survey-Task 2 Analytical Report Naval Training Center-Bainbridge.* Pre-Final. (EA, July 1997)
July 1998	Based on regulator comments on Pre-Final Task 2 report, additional field sampling performed by EA at four AOCs (AOCs Nos. 2, 3, 6, & 9).	Completed	Results included in: *Environmental Baseline Survey-Task 2 Analytical Report Naval Training Center-Bainbridge.* Revision No. 2 Pre-Final. (EA, July 1999)
August 1998-April 1999	A streamlined human health risk assessment (SHHRA) was performed, and preliminary remediation goals (PRGs) developed for AOCs 2, 3, & 6.	Completed	*Streamlined Human Health Risk Assessment AOCs 2, 3, and 6 Naval Training Center-Bainbridge.* Final. (EA, April 1999)
April 1999	Additional field samples collected from AOCs 2 and 9, and IR Site 2 (AOC 11). AOC 9 and IR Site 2 (AOC 11) samples to be used to assess post-removal action residual risks.	Completed/ Finalization of report pending regulator review.	*Environmental Baseline Survey-Task 2 Analytical Report Naval Training Center-Bainbridge.* Revision No. 2 Pre-Final. (EA, July 1999) and *Human and Ecological Risk Characterization IR Sites 1 and 2 OBL and FTA* . Draft. (EA, July 1999)
July 1999	EBS Task 2 report revised and reissued to incorporate initial Task 2 sampling (February/March 1997) and July 1998 sampling at AOCs 2, 3, 6, & 9. It also incorporates the results of the SHHRA for AOCs 2, 3, & 6.	Completed/ Finalization of report pending regulator review.	*Environmental Baseline Survey-Task 2 Analytical Report Naval Training Center-Bainbridge.* Revision No. 2 Pre-Final. (EA, July 1999)

TABLE 1-1 (Continued)

Date	EBS Activity	Activity Status	Related Report
September 1999	Comprehensive EBS Report produced to present all AOCs.	Completed/ Finalization of report pending regulator review.	*Environmental Baseline Survey for the Naval Training Center – Bainbridge*. Pre-Final. (EA, September 1999).
September 1999	Clean parcel determination by Navy presented for Regulatory review and comment.	Pre-Final Submitted	Regulatory review and comment on clean parcel determination to be sought through review of this EBS Report.
Future	Prepare Draft FOST for Regulatory Review for Category 1-4 parcels.	Future	Future

2. SUMMARY OF ENVIRONMENTAL CONDITION

2.1 SUMMARY OF TASK 1 FINDINGS

Work completed under Task 1 included a visual site inspection, interviews, records review, compilation of a records repository for information collected during Task 1, and preparation of a written report: *Findings and Recommendations Environmental Baseline Survey - Task 1 Naval Training Center - Bainbridge Port Deposit, Maryland* (EA 1996). The records review included a review of the "Position Paper" (EPA 1995), a document prepared by EPA Region III in consultation with the MDE. In this document, EPA Region III and MDE outlined environmental concerns at NTC–B that they believed warranted additional investigation.

Based on the results of the Task 1 activities, and in accordance with the U.S. EPA/MDE Position Paper, a scope of work for Task 2 (Sample Collection and Analysis) was prepared for certain EBS AOCs at NTC–B. This scope of work was developed by the Navy (EFA Ches) in consultation with representatives of MDE and U.S. EPA Region III. The purpose of the Task 2 document, *Environmental Baseline Survey Task 2 Analytical Report Naval Training Center-Bainbridge* (EA 1999a), is to present the results of the investigation conducted at the 10 AOCs identified for further evaluation in the EBS Task 1 Report (EA 1996). The ultimate objective is to recommend AOCs for no further action or further action, based upon the analytical results of field investigations at each AOC.

The findings of the Task 1 investigation are summarized in the following sections and presented in Tables 2-1 through 2-3. A more detailed description of the Task 1 findings can be found in *Findings and Recommendations Environmental Baseline Survey - Task 1 Naval Training Center - Bainbridge Port Deposit, Maryland* (EA 1996).

2.1.1 Under Ground Storage Tanks

Table 2-1 includes a summary of the Task 1 investigation findings for Under Ground Storage Tanks (USTs). During the Task 1 investigation, it appeared that a waste oil UST may be located at Building 760 (Automotive Shop). Subsequent to Task 1, OHM excavated the UST and removed it from Building 760 (OHM 1997). OHM also located and removed USTs from Buildings K and 116.

Varying amounts of subsurface contamination were identified at the UST sites, resulting in excavation of contaminated soil. Ground water at the Former Gas Station (756A) is currently being sampled from monitoring well 756A-3. Additional information on the UST remediation project is presented in Chapter 3.

Solvent USTs were removed from Building 718, the former Dry Cleaning Facility, in January 1990. The analysis of the ground water samples collected from wells near Building 718 were inconclusive since the detection limits were above the Maximum Contaminant Levels (MCLs) for some of the chlorinated solvents. Subsequent to the Task 1 investigation, additional sampling

and a Human Health Risk Assessment (HHRA) were performed at this site under Task 2 (EA 1999a). No further action is recommended for the former Dry Cleaning Facility.

During the Task 1 investigation, an apparent UST vent pipe was observed adjacent to Building N where a heating oil UST was formerly located. Documentation of a UST removal at this location was not found. It also appeared that a UST may have been located at Building M. Subsequent to the Task 1 investigation, OHM did not locate any USTs in the vicinity of Buildings N and M (OHM 1997).

2.1.2 Above Ground Storage Tanks

Table 2-1 includes a summary of the Task 1 investigation findings for Above Ground Storage Tanks (ASTs). One AST was identified in the basement of Building J-J during the Task 1 investigation (EA 1996). Subsequent to Task 1, the tank was removed by OHM (OHM 1997). OHM also removed ASTs from Buildings 7 and 723 (OHM 1997).

Two ASTs were identified in Task 1 in the vicinity of the former Brig (Building 627), where International Crane had established a temporary base of operations (EA 1996). There was no evidence of releases of petroleum products. Subsequent to Task 1, the ASTs were removed from the vicinity of Building 627.

One abandoned empty AST was identified in the woods behind Building 526. Visual evidence of spills or releases from the AST (e.g., stained soil, stressed vegetation) was not observed, and no odors were detected. Subsequent to Task 1, the AST was removed from the woods behind Building 526.

2.1.3 Petroleum/Oil/Lubricants

Table 2-1 includes a summary of the Task 1 investigation findings for petroleum/oil/lubricants (POLs). A circular structure that once contained an AST was observed near Building 529. No visual evidence of petroleum contamination was observed. Several areas where stained soil was identified included: Buildings 760, 632, and 103. These areas appeared to represent a housekeeping issue which is being addressed by the Navy.

Several containers and drums were identified in Task 1 in the vicinity of the Cecil County Community College trailers and at Building 760 (Automotive Shop) (EA 1996). Ten drums, which were the property of International Crane, were identified in the Drill Field west of Building 102. Subsequent to the Task 1 investigation, OHM completed cleanup of this area (OHM 1997).

OHM collected and staged a total of 40 drums during the site cleanup (OHM 1997). Other waste material encountered and removed by OHM included empty and former casings of gas cylinders, containers, batteries, road salt, tires, abandoned trailer, gasoline pump, metal debris, and trash.

2.1.4 Hazardous Materials

Significant small quantities of hazardous materials were not used or stored at NTC–B. Such materials, including paints, paint thinners, and solvents, were stored in flammable storage buildings. Reagents and other chemicals were stored at Building 692 (Sewage Treatment Plant) and Building 693 (Water Treatment Plant). Pesticides were formerly prepared at Building 683 (Pesticide Shop), which has since been demolished, and electric transformers were stored and serviced at Buildings 713 and 714 (Heavy Equipment Shops), which have also been demolished. Cleaning compounds were stored in small quantities at various locations across the NTC-B. Pesticides were also stored at a barn (Building 53) which was formerly located near the Sewage Treatment Plant.

Various hazardous materials were also identified in NTC–B locations listed below. Descriptions of these materials, their locations, and the presence/absence of environmental concerns from the Hazardous/Flammable Material Storage Buildings and Miscellaneous Buildings are summarized in Table 2-2.

Hazardous/Flammable Material Storage Buildings

Five hazardous/flammable material storage buildings (Buildings 404B, 502B, 505A, 506A, and 631) were identified as storing various chemical containers in the Task 1 investigation. Subsequent to the Task 1 investigation, chemical containers that were identified from these buildings were removed during the OHM site cleanup (OHM 1997).

Miscellaneous Buildings

In addition to the Hazardous/Flammable Material Storage Buildings, various chemical containers were observed at Buildings or former Building locations 529, 35, 103B, 103, 102, 693, 692E, 760, 713, 714, 659A, 88, and 31. Subsequent to the Task 1 investigation, these various chemical containers were removed during the OHM site cleanup (OHM 1997).

Demolished Buildings

The locations of demolished buildings that were listed as hazardous/flammable storage buildings, laboratories, explosive/small arms magazines, auto vehicle maintenance shops, public works shops, and incinerators were inspected for the Task 1 Investigation (EA 1996).

Hazardous Waste Disposal

During the Task 1 investigation, hazardous waste manifests were reviewed in order to establish where the materials that were disposed of as hazardous wastes had been originally stored (EA 1996). The majority of hazardous waste materials were collected from the Job Corps buildings

(Buildings 101, 103, 105, and 106), the Sewage Treatment Plant (Building 692), the Water Treatment Plant (Building 693), and a barn (Building 53).

Due to the results of the review of the hazardous waste manifests and subsequent to Task 1, cleanup actions at the Job Corps buildings, the sewage treatment plant, and the water treatment plant buildings were tasked to OHM (OHM 1997).

Coal Storage Pile

Coal was stored near a stream along the northeast perimeter of the Base. The coal pile and nearby stream did not reveal visual evidence of environmental concerns (e.g., stained soils, stressed vegetation, oily sheen, etc.) during the Task 1 investigation (EA 1996). Based on the EPA/MDE position paper and subsequent to Task 1, additional sampling was conducted at this site under Task 2 (EA 1999a).

Pesticide Shop

A former Pesticide Shop (Building 683) was located in the north-central portion of NTC–B. Concerns were raised by EPA regarding potential pesticide contamination in this area. The site inspection revealed that the buildings in this area have been demolished and the ground surface is composed of a mixture of clayey soils, asphalt, gravel, and concrete foundations (EA 1996). A stormwater grate was observed in the vicinity of former Building 683, although no standing water was identified. Visual evidence of surface stains or stressed vegetation was not identified in the vicinity of former Building 683 (EA 1996). Subsequent to the Task 1 investigation, additional activities were performed at this location including the collection and analysis of environmental samples during the Task 2 field investigation (EA1999a). A Streamlined Human Health Risk Assessment was also completed for the Former Pesticide Shop (EA 1999b). Current status at the Former Pesticide Shop is ongoing remedial action and further ground-water investigation.

Pesticides were also stored in a barn (Building 53) located near the Sewage Treatment Plant (STP). Written records have been found recommending that various unused pesticides were to be buried in the Old Base Landfill (OBL). Interviews with past employees have confirmed such disposal (EA 1996).

2.1.5 Polychlorinated Biphenyls

2.1.5.1 Transformer Buildings and Storage Areas

Concerns were raised by EPA regarding potential Polychlorinated Biphenyls (PCB) contamination in the vicinity of Former Buildings 713 and 714 (Heavy Equipment Shops). Visual evidence of transformer oil releases or spills (e.g., soil staining, stressed vegetation) was not identified during the Task 1 site inspection (EA 1996). There is no record of spills or leaks associated with the transformer storage area. Subsequent to Task 1, sampling was performed at

this site (AOC 4, Former Transformer Storage Yard) under the Task 2 Investigation (EA 1999a). Soil samples were collected at this AOC to assess the potential presence of PCB in soil resulting from the former staging of transformers at this location. The analytical results of the sampling effort revealed that one of three samples collected contained PCB concentrations in excess of the screening value. The single exceedance concentration was only slightly above the residential Risk Based Criteria (RBC) for PCB and less than the RBC for industrial settings. The Task 2 Report recommended no further action for AOC 4.

2.1.5.2 Transformers and Electrical Equipment

Over 400 pieces of oil-filled electrical equipment were identified at NTC–B during the 1982 PCB Survey conducted by Atlantic Division, Naval Facilities Engineering Command (LANTNAVFACENGCOM 1995). This survey report was reviewed for the Task 1 Investigation (EA 1996). The survey also included the collection and analysis of oil samples for PCB concentrations. The survey identified six transformers that were assumed to contain PCB concentrations greater that 500 mg/L, based on the manufacturer's information about the type of oil they contained. These transformers were removed from NTC–B in 1985 and documented on hazardous waste manifests (LANTNAVFACENGCOM 1995). Thirteen capacitors were identified as PCB-containing and were also removed from NTC–B and disposed. Based on the documentation reviewed for Task 1, it appeared that all oil-filled electrical equipment containing greater than 50 mg/L PCB had been removed from NTC–B.

The 1982 PCB Survey indicated that non-PCB transformers, i.e., those containing less than 50 mg/L PCBs, per 40 CFR 761, were left in place and labeled as non-PCB transformers. Although several hundred transformers were located and characterized, the 1982 survey indicated that several transformers were found to be empty and vandalized. By the time that the EBS survey was initiated in 1996, the vast majority of non-energized transformers on the NTC-B had been vandalized for the scrap metal value of the copper windings. Subsequently, the base-wide cleanup project recovered over 100 empty transformer casings; locations where empty casings were found were inspected, and soil samples were collected and analyzed for contamination, as appropriate. The few remaining non-PCB transformers that were located intact were inspected, reviewed versus the earlier inventory, removed from service and drained of oil. These actions were performed for the Navy by OHM Remediation Services Corporation and documented in *Site Clean-Up and PCB Removal Actions Volume I – Contractor Close-Out Report* (OHM 1997). According to the report the oil was stored in drums for disposal and the empty transformers were disposed of as scrap.

During the Task 1 Investigation, two active, pole-mounted transformers located along Bainbridge Road were found to be in good condition, with no visual evidence of spills or releases observed (EA 1996). One active transformer was located on a pole outside of Building K. This transformer was visually surveyed and appeared to be in good condition, with no visual evidence of leaks or releases identified (EA 1996).

Several transformer platforms which still supported transformer canisters were also identified on telephone poles in scattered locations across NTC–B during the Task 1 investigation (EA 1996).

Approximately 60 transformer platforms without transformer canisters are located on NTC–B. Visual surveys beneath the platforms did not reveal visual evidence of spills or releases of transformer oil (e.g., stained soil, stressed vegetation) (EA 1996).

The Task 1 site inspection identified four locations where empty transformer canisters were on the ground (EA 1996). The site inspection did not identify visual evidence of spills or releases of transformer oil in these locations (e.g., stained soil, stressed vegetation). Three transformers were identified in an electric room in Building 693 (Water Treatment Plant). The analytical results of the 1982 PCB survey revealed that these transformers were sampled and no PCBs were detected. Visual evidence of releases or spills was not identified in the electric room of Building 693 (EA 1996).

OHM Electrical Equipment Cleanup

Subsequent to the Task 1 survey, OHM gathered electrical equipment from many areas of NTC–B (OHM 1997). See Chapter 3 for a summary of the PCB cleanup performed by OHM.

2.1.6 Archaeologic and Historic Sites

Two sites on NTC–B are listed on the National Register of Historic Places: the Tome School Historic District and the Snow Hill Free Black Archaeological Site. The Tome School District includes thirteen buildings in the southwestern corner of NTC–B. Subsequent to the Task 1 report, the Navy has boarded up windows and entrances at the Tome School District and has repaired the roofs of three buildings.

The Snow Hill Archaeological Site is also located in the southwestern corner of NTC–B, along the fence that parallels Route 222. The Task 1 site inspection was unable to locate the Snow Hill Archaeological Site.

A Memorandum of Agreement under Section 106 of the National Historic Preservation Act has been signed by the Navy and the Maryland Historical Trust (MHT) and presented to the Advisory Council on Historic Preservation (ACHP). It provides for certain stabilization and maintenance measures for the Tome School buildings as well as preservation easements for both historic sites.

2.1.7 Historical Information (Aerial Photographs and Chain-of-Ownership)

Aerial photographs of NTC–B from 1938 through 1988 were reviewed for the Task 1 report to assess historical uses of NTC–B (EA 1996). The 1938 photograph indicated the presence of large agricultural fields and related residential structures prior to the Navy's acquisition of the site. Visual evidence of industrial operations was not observed in the 1938 aerial photograph. The photographs from 1947 through 1988 depicted various stages of Naval operations onsite, including the presence of barracks, training areas, instruction buildings, the FTA, the OBL, and the STP. In summation, the review of the aerial photographs did not reveal visual evidence of environmental concerns that have not already been identified (EA 1996).

The chain-of-ownership information for NTC–B consists of deeds documenting the acquisition of NTC–B property by various mechanisms, including condemnation or taking, and purchase. A review of the previous owners of NTC–B indicates private ownership by a large number of individuals (EA 1996). The Whitaker Iron Company is listed as a previous owner of a portion of NTC-B. The Whitaker Iron Company foundry was located in Principio, Maryland, approximately 7 miles north of Perryville on Route 1. Some of the Whitaker family members formerly lived on NTC-B, but no industrial operations associated with the Whitaker Iron Company were conducted on NTC-B.

2.1.8 Environmental Database Search

An environmental database report produced by EcoSearch Environmental Resource, Inc. was reviewed by EA for the Task 1 investigation (EA 1996). The EcoSearch report was requested again in July 1999 to provide a current update for this EBS Report. Appendix A contains a copy of the July 1999 EcoSearch report. This report is a listing of sites that have been included in various federal and state environmental databases. The report searches federal and state databases in order to identify regulated sites that are located within specific distances established by the American Society for Testing and Materials (ASTM Standard No. 1527-97). These search distances were established by ASTM in order to define good commercial and customary practice for conducting an environmental site assessment of commercial property. The following is a summary of the findings from this data base search.

Federal Databases

One DOCKET site was identified within a 1-mile radius of the subject site in the EcoSearch Environmental Resource, Inc Report. DOCKET contains information on civil and administrative actions filed by the Department of Justice for EPA. This record has been continually updated since 1972 and includes data regarding facility name, dates, laws violated, and penalties assessed. The site is listed as Mt Ararat Farms with a street address of 155 Mt Ararat Farm Road, at a distance of approximately 0.51 mi south of NTC-B. The law reported to have been violated at this site was the Toxic Substance Control Act, section 16, regarding PCB. A nine-thousand dollar federal penalty was assessed.

One Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (No Further Response Action Planned [NFRAP] Archive) site was identified within a 1-mi radius of the subject site in the EcoSearch Environmental Resource, Inc Report. The CERCLA NFRAP Archive includes sites which have been reclassified as No Further Response Action Planned by the EPA. This action was taken by the EPA beginning February 1995 as a part of the Brownfields Redevelopment Program. These former CERCLA sites have been delisted from CERCLA because no significant contamination was found. The site is listed as Principio Road with a street address of 551 Principio Road, at a distance of approximately 0.70 mi east of NTC–B. The site is an old gravel pit dump between Principio Road and Craigtown Road off of Jackson Park Road. The site was discovered on 27 October 1992, a preliminary assessment was

completed on 29 June 1994, and no further remedial action is planned. Ownership of the site is unknown.

Maryland Databases

One Maryland State Master List (SML) Hazardous Waste Site (HWS) was identified within a 1-mile radius of the subject site in the EcoSearch Environmental Resource, Inc., Report. The Maryland SML is a listing of sites which are considered to be a threat to the public health and welfare by the MDE. The site is listed as Principio Road with a street address of 551 Principio Road, at a distance of approximately 0.70 mi east of NTC–B. Information regarding the nature of the environmental concerns at the Principio Road site is the same as the information in the CERCLA NFRAP Archive.

Nine UST sites were identified from the EcoSearch Report within a 0.25-mi radius of the subject site. This search yields all regulated USTs located within the State of Maryland. The UST sites are Logan's Wharf, Water Witch Fire Co., Bainbridge Elementary, Pleasant View Baptist Church, Battle Swamp Market, Craigtown Market, Cecil Sand & Gravel, Wiley Manufacturing, and Paul and Ray Hrabel. The current status of the USTs at these locations vary from currently active to removed. The status of the businesses was not given in the EcoSearch report. Some of the businesses may no longer be operating.

Based on a review of these UST sites, approximately six currently active USTs are located within 0.10 mi of NTC–B at apparent upgradient locations (e.g., east of NTC-B). These USTs present a potential concern based on their proximity and apparent upgradient locations. However, none of these sites were listed in the Maryland Leaking Under Ground Storage Tank (LUST) database, which tracks remedial operations being conducted in response to spills or leaks associated with USTs. Therefore, based on the information reviewed, these UST sites do not appear to present a significant environmental concern to NTC–B at this time.

No other Maryland environmental database sites were identified in the EcoSearch Environmental Resource, Inc. Report as being located within ASTM-specified distances of NTC–B.

2.1.9 Miscellaneous

A circular concrete structure was identified approximately 25 ft southwest of Building 205 in the Task 1 investigation (EA 1996). A steel lid covering the top of the structure was partially removed and it appeared that the structure is a storm or wastewater manhole.

An acid sewage line formerly originated in the vicinity of the coal storage pile. The line was used to collect runoff from the coal storage pile and direct it to the Sewage Treatment Plant. The acid sewage line was installed to protect the former drinking water supply (reservoir and stream) for NTC-B and the town of Port Deposit. The coal storage area is no longer operational and the residents no longer rely on the reservoir/stream as a source of drinking water.

2.2 SUMMARY OF EBS TASK 1 RECOMMENDATIONS AND NAVY ACTIONS

Based on the results of Task 1 and review of EPA and MDE correspondence regarding NTC–B, follow-up investigations were recommended to address potential environmental concerns raised during the site inspection, record reviews, and interviews. A summary of the concerns and recommended actions is presented in Table 2-4. The recommendations are summarized below. A more detailed description of the Task 1 recommendations can be found in *Findings and Recommendations Environmental Baseline Survey - Task 1 Naval Training Center – Bainbridge Port Deposit, Maryland* (EA 1996).

EPA/MDE Correspondence

In response to correspondence received by the Navy from EPA/MDE regarding the EBS at NTC–B, modifications to the Task 2 sampling and analysis scope of work were recommended. The modifications included the collection of additional samples at the Officer Housing Area, former Building 720, former water tower locations, OBL, former Building 683 (Pesticide Shop), Open Storage/Salvage Yard, and former Coal Storage Pile. Sample collection at the former Building 627 (Brig Area) and Building 692 (Sewage Treatment Plant) was recommended to be eliminated.

Hazardous/Flammable Storage Buildings

The collection of samples from areas identified as suspect was recommended in the Task 1 Report (EA 1996). These areas include Hazardous/Flammable Storage Building Nos. 505A, 506A, and 631. Subsequent to Task 1 an investigation of these areas revealed that sample collection was found to be unnecessary.

Under Ground Storage Tanks

A survey was recommended in Task 1 to be conducted in the vicinity of Building 760 to assess for the potential presence of a waste oil UST (EA 1996). Subsequent to Task 1, OHM removed the UST and excavated petroleum-impacted soil near Building 760 (OHM 1997). Confirmation samples indicated no further excavation would be required.

A subsurface investigation was recommended in Task 1 to assess for the potential presence of USTs in the vicinity of Buildings M and N (EA 1996). Subsequent to Task 1, an investigation was completed in the vicinity of Buildings M and N, which concluded that no USTs were found near these Buildings.

Petroleum/Oil/Lubricants at the Fuel Oil Pump House (Building 529)

Based on its narrative description as the Fuel Oil Pump House, the EBS Task 1 report recommended Building 529 for further inspection and sampling (EA 1996). Subsequent to Task 1, Building 529 was inspected by the Navy and EPA. The visual inspection failed to identify any contaminated soils or stressed vegetation indicative of environmental concerns, thus no samples were collected at Building 529. Consequently, it was not identified as a Task 2 AOC.

Surrounding Properties

The review of federal and Maryland environmental databases revealed the presence of a Maryland HWS approximately 0.8 mi east of NTC–B. In order to assess the degree of environmental concern posed to NTC–B by the Principio Road site, it was recommended in the Task 1 Report that a Freedom of Information Act (FOIA) request be submitted to MDE in order to review available files. The federal database CERCLA NFRAP Archive provided additional information on this site that was not revealed in the 1996 database search. The Principio Road site is an old gravel pit dump identified on 27 October 1992. A preliminary assessment was completed on 29 June 1994 and no further remedial action is planned. Since no further remedial action is planned at this site, the FOIA request was found to be unnecessary.

Navy Actions

Task 1 of the EBS at NTC–B reached many concerns over issues regarding chemical containers, contractor wastes, asbestos, electric transformers, and temporary backfill monitoring wells that appear to require action on the part of the Navy as opposed to an additional investigation. These concerns and recommendations are summarized below and presented in Table 2-4. A more detailed description of the ongoing Naval operations can be found in *Findings and Recommendations Environmental Baseline Survey - Task 1 Naval Training Center - Bainbridge Port Deposit, Maryland* (EA 1996) and documentation of site cleanup can be found in the forthcoming Closeout Reports by OHM (OHM 1999).

Chemical Containers

Task 1 Recommendation - The chemical and petroleum product containers (i.e., gas cylinders, 55-gal drums, 35-gal drums, 5-gal buckets), the heating oil AST in the basement of Building J-J, and a dumpster full of chemical containers adjacent to Building 693 (Water Treatment Plant) should be screened, removed, and disposed of.

Navy Action - OHM removed the chemical and petroleum product containers and the AST during the site cleanup (OHM 1997).

Contractor Wastes

Task 1 Recommendation -The four abandoned tractor trailers, the 55-gal drums, the ASTs located at the office trailer, all of which were the property of International Crane, should be removed from NTC–B.

Navy Action - The four abandoned tractor trailers, the 55-gal drums, and the ASTs were removed.

Task 1 Recommendation - Various chemical containers, including one 55-gal drum at the Cecil County Community College Truck Driver Training School Office should be removed.

Navy Action - The containers and drum were removed.

Asbestos

Task 1 Recommendation - A significant amount of Suspect Asbestos Containing Material (SACM) is currently located in the remaining improvements on NTC–B. Non-friable materials include transite siding and floor tile. Friable materials include Thermal System Installation (TSI) and the sprayed-on fireproofing in Building 102. These materials should be assessed prior to the transfer of NTC–B.

Navy Action - Asbestos materials in Building 102 and any other buildings with asbestos containing materials will be disclosed to potential future property owners. All such buildings have been boarded up and signs have been posted. The Navy has also remediated soil containing asbestos for compliance with the asbestos NESHAP and the Federal Facilities Compliance Agreement (FFCA) (EPA 1992). EPA has certified all FFCA required excavation areas. See Chapter 3 for a more detailed discussion of the asbestos abatement/removal project.

Electric Transformers

Task 1 Recommendation - Three transformer canisters that contained oil were found in Building 693. The oil was sampled and no PCBs were detected. The Navy should remove and properly dispose/recycle the oil contained in the transformer canisters at Building 693.

Navy Action - The transformer canisters were recovered and removed by OHM during the site cleanup (OHM 1997).

Temporary Backfill Monitoring Wells

Task 1 Recommendation - Temporary backfill monitoring wells were located throughout NTC–B. It is recommended that the wells be properly abandoned prior to the transfer of NTC–B.

Navy Action - The temporary backfill monitoring wells (44 UST backfill monitoring wells) and nine ground water monitoring wells were decommissioned by OHM (OHM 1997). OHM also filled two collection wells at Buildings 526 and 723 (OHM 1997).

2.2.1 Development of Task 2 Scope

Based on the results of EBS Task 1 at NTC–B, 43 areas (not yet identified as AOCs) were initially identified (EA 1996). These areas were reviewed and discussed by the Navy, EPA Region III, MDE, and EA. During these meetings, the areas that could be best addressed by the Navy directly and did not require sample collection and analysis (e.g., removal of various containers identified throughout the site) were removed from the scope of work for Task 2. In addition, certain areas were subsequently addressed by the provision of documents that detailed the completion of certain activities (e.g., UST removals), while other areas were deleted because EPA and MDE determined that no additional investigation was warranted.

Following these discussions and decisions, seven AOCs (1 through 7) were identified which required further information for evaluation of potential environmental impact. The Task 2 study was also used to gather additional information in support of other ongoing studies apart from the EBS; the additional information is identified in Task 2 as AOCs 8, 9, and 10. All ten AOCs were included in the scope of work for Task 2. The following AOCs were evaluated under the EBS Task 2 investigation (EA 1999a):

AOC	Description
1	Lead Based Paint Areas
2	Former Open Salvage/Storage Yard and Coal Storage Areas
3	Former Pesticide Shop
4	Former Transformer Storage Yard
5	Old Base Landfill (Asbestos)
6	Former Dry Cleaning Facility
7	Former Gas Station (Bldg 756)

AOCs in Support of Other Ongoing Investigations

AOC	Description
8	Soil Background Samples
9	Old Base Landfill (Ground Water, Surface Water, and Sediment)
10	Rubble Landfill (Ground Water, Surface Water, and Sediment)

Table 2-4 summarizes the Task 1 1996 recommended actions for the areas inspected and the follow-up action by the Navy. The Task 1 report recommended additional activities including the collection and analysis of environmental samples to be conducted under Task 2 for AOCs 1 through 7.

2.2.2 Summary of Navy Actions

Table 2-4 summarizes the Task 1 1996 recommended actions for the areas inspected and the follow-up action by the Navy. The Navy actions included the collection and analysis of environmental samples under the Task 2 Field Investigation (EA 1999a); removal of containers, transformers, etc. from selected locations; and removal/abandonment of the temporary monitoring wells.

Since the Task 1 Final Report was issued, numerous Navy actions have been taken relative to the AOCs identified or discussed in Task 1. Table 2-5 lists the AOCs and summarizes Navy actions and the current status at each AOC. The first 10 AOCs on Table 2-5 were investigated as part of Task 2 (EA 1999a).

2.2.2.1 Results of the Task 2 Investigation

The EBS Task 2 investigation was conducted for 10 AOCs at NTC–B (EA 1999a). The analytical sample results at three AOCs were used to supplement data for existing monitoring programs, and one sample result was used to estimate soil background concentrations. The objective of the sampling was to generate data for use as a basis to recommend AOCs for no further action or further action based upon the analytical results of field investigations at each AOC. The results, summarized below, are documented in the report *Environmental Baseline Survey Task 2 Analytical Report Naval Training Center-Bainbridge* (EA 1999a).

Field sampling activities included the collection of soil, sediment, surface water, and ground-water samples. A total of 48 surface soil samples (0-6 in.), 15 ground-water samples, 2 surface water, 2 sediment samples, and 2 paint chip samples were collected as part of the EBS Task 2 March 1997 sampling effort (EA 1999a). Constituents of Potential Concern (COPC) in soil were initially identified through comparison with media-specific screening criteria which included EPA Region III Residential Soil RBCs, Soil Screening Levels (SSLs) for soil and ground water, and background levels for soil. For compounds identified as COPC in ground water, screening criteria such as MCLs, as well as Region III RBCs, were used.

Additional samples were collected at four AOCs (2, 3, 6, and 9) in July 1998 and April 1999 to further assess potential contamination of these AOCs (EA 1999a). A streamlined human health risk assessment, *Streamlined Human Health Risk Assessment AOCs 2, 3, and 6 - Naval Training Center-Bainbridge,* was then completed (EA 1999b) at AOCs 2, 3, and 6 to further assess the risks associated with potential COPC exposures at these AOCs.

A summary of the conclusions and recommendations of the 10 AOCs from Task 2 (EA 1999a) are presented below.

AOC 1: Lead Based Paint Areas

Four separate locations, Officers Housing Quarters C (Tome Institute), Building 720, Water Tower 689, and Water Tower 1054 were evaluated as part of this AOC due to the potential for leaching from Lead Based Paint (LBP). Lead was found in surface soil in concentrations exceeding the screening value at three of the four LBP areas evaluated. Exceedance concentrations ranged from 470 to 5,590 mg/kg.

Given the limited mobility of lead in soil, however, lead concentrations in soil at locations removed from the source areas would be expected to approximate background concentrations. This is particularly true for areas away from the drip lines of the buildings and former buildings. In the immediate proximity of structures evaluated for contamination from lead based paints, there were numerous instances where the sampling results exceeded the screening level of 400 mg/kg. As such, lead in soil in these areas is identified as a COPC.

Current Department of Defense (DoD) policy, consistent with Federal law, states that the presence of lead based paint contamination in "target housing" constructed before 1960 must be inspected for LBP hazards, and such hazards must be abated. Target housing constructed after 1960 and before 1978 must be inspected for LBP and LBP hazards; the results of this inspection must be provided to prospective purchasers or transferees of the property.

The provision for abatement can be extended to include the cleanup of LBP contamination in soil adjacent to the housing units, when the lead levels could pose a threat to children. In all such cases, the impacted soil must be in the immediate area of active housing units, or if the buildings are vacant, it must be clearly known that the buildings will be used for housing in the future. If the above conditions are not met, current policy prohibits the Navy from spending any funds to cleanup LBP contamination in soils. Accordingly, the Task 2 recommendation for this AOC is that the Navy will disclose the existence and level of LBP contamination in soil to potential future property owners.

Subsequent to Task 2, lead impacted soil has been removed from the Water Towers (689 and 1054) due to lead levels in soil exceeding screening levels.

AOC 2: Open Salvage/Storage Yard and Coal Storage Area

The impact of former coal storage and the use of coal/coal ash and cinder as a paving material was evaluated at two areas, the Open Salvage/Storage Yard (AOC 2a) and a Former Coal Storage Area (AOC2b). Surface soil samples were collected at both locations and analyzed for Polycyclic Aromatic Hydrocarbons (PAH) and Target Analyte List (TAL) metals. One sample collected from the Open Salvage/Storage Yard (AOC 2a) contained 16 COPC (6 PAH and 10 Metals). The second sample collected from that area was impacted to a significantly lesser

degree by COPC (one PAH and two metals). One of the two samples collected from the Coal Storage Area (AOC 2b) revealed PAH in concentrations exceeding screening values. The second sample collected from the Coal Storage Area (AOC 2b) contained no COPC.

The analytical results of the sampling indicate that COPC in soil occurred as a result of the former coal storage, as well as Open Salvage/Storage Yard at NTC–B. Migration of COPC away from these areas appears to be minimal as is evidenced in the results from the second sample collected from the former Open Salvage/Storage Yard. Although one PAH and two metals were found, the PAH was benzo(a)pyrene, an almost ubiquitous compound, and one of the metals (selenium) was only slightly above the background concentration.

A streamlined human health risk assessment was completed at AOC 2a (EA 1999b) to further assess the risks associated with potential COPC exposures at the AOC. Noncancer risks were calculated for future resident adults (hazard index = 0.9) and future resident children (hazard index = 8.9) at AOC 2a. Total excess cancer risks based on a 30 year exposure duration at AOC 2 was calculated to be 1×10^{-4}, which is the upper threshold of the acceptable cancer range (1×10^{-6} to 1×10^{-4}). Chemicals were identified as risk drivers for cancer risks that exceeded 1×10^{-6} or non cancer risks that exceeded 1.0. Chemicals identified as risk drivers at AOC 2a included: antimony, arsenic, iron, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene. Lead concentrations at AOC 2a were found at unacceptable levels when modeled using the Integrated Exposure Uptake Biokinetic Model (IEUBK). The IEUBK model showed an acceptable blood lead level of 6.1 µg/dL (predicted geometric mean blood-lead concentration), however, the percentage of exposed children that would have a blood lead level above EPA's goal of 10 µg/dL was found to exceed the EPA's goal of 5 percent. The IEUBK model showed that 13.6 percent of the exposed children would have a blood lead level above 10 µg/dL.

Preliminary Remediation Goals (PRGs) were developed at AOC 2a in accordance with EPA guidance (EPA 1991).

Subsequent to the Task 2 Report, the Navy completed removal actions in July 1999 at the Open Salvage/Storage Yard (AOC 2a). The Task 2 report recommended no further action for the Coal Storage Area (AOC 2b).

AOC 3: Former Pesticide Shop (Building 683)

The analytical results of surface soil samples collected at the former pesticide shop indicate the presence of residual levels of chlordane and 4,4'-DDT and associated breakdown products.

A streamlined human health risk assessment was completed (EA 1999b) to further assess the risks associated with potential COPC exposures at AOC 3. Noncancer risks were calculated for future resident adults (hazard index = 0.3) and future resident children (hazard index = 3.7) at AOC 3. Cancer risks were found to be 1×10^{-4} , which is the upper threshold for the acceptable cancer risk range (1×10^{-6} to 1×10^{-4}). Chemicals identified as risk drivers at AOC 3 included:

DDD, DDE, DDT, alpha-chlordane, gamma-chlordane, and heptachlor epoxide.

PRGs were developed at AOC 3 in accordance with EPA guidance (EPA 1991). A removal action to reduce COPC in soil to acceptable levels is in progress at AOC 3.

AOC 4: Former Transformer Storage Yard

Soil samples were collected at this AOC to assess the potential presence of PCB in soil resulting from the former staging of transformers at this location. The analytical results of the sampling revealed that one of three samples collected contained PCB concentrations in excess of the screening value.

The single exceedance concentration was only slightly above the residential RBC for PCB and less than the RBC for industrial settings. The Task 2 Report recommended no further action for AOC 4.

AOC 5: Old Base Landfill (Asbestos)

After the Base Closure in 1976, the OBL served as a near-surface disposal area for building demolition rubble including Asbestos Containing Material (ACM). Surface water, sediment, and ground-water samples were collected at locations downgradient from the OBL and evaluated for asbestos using Transmission Electron Microscopy (TEM). The results indicate that asbestos fibers >10 µm were not detected.

The Task 2 Report recommended no further action for AOC 5 (Asbestos Only).

AOC 6: Former Dry Cleaning Facility (Building 718)

One ground-water sample was collected from a monitoring well located in the vicinity of a former UST containing dry cleaning solvents to confirm non-detectable concentrations of Volatile Organic Compounds (VOCs) identified during previous sampling efforts. The analytical results reveal 1,2-dibromo-3-chloropropane concentrations in excess of the U.S. EPA Region III Risk-Based Criteria (RBC) soil screening value.

The screening value selected was conservative however, based on 1/10th the EPA Region III RBC for tap water for carcinogenic effects. Since 1,2-dibromo-3-chloropropane was the only COPC identified additivity would not be an issue and the screening value would appropriately be increased by a factor of 10.

A human health risk assessment was initiated to further assess the risks associated with potential COPC exposures at AOC 6. The results of the streamlined human health risk assessment found that since no VOC were detected in the July 1998 sampling event, no COPC were identified. Therefore, no further human health risk assessment was conducted at this site and no unacceptable human health risks were found for ground-water at AOC 6. The Task 2 Report

recommended no further action for AOC 6.

AOC 7: Former Gas Station (Building 756A)

One ground-water sample was collected from a well at the Former Gas Station in response to a request from MDE prior to granting site closure. Ethylbenzene, toluene, and xylene isomers were identified in concentrations exceeding screening levels. The Total Petroleum Hydrocarbons (TPH) concentration was 36,500 µg/L. There are no action levels for TPH in Maryland.

The analytical results for AOC 7 are to be used by MDE as part of the requirements for site closure.

Subsequent to Task 2, additional sampling was done at the Former Gas Station. Closure of this site is pending formal notification from MDE. Additional information on the ground water monitoring at this AOC can be found in Section 3.1.1, Page 3-1.

AOC 8: Background Sampling

AOC 8 includes those areas where background sampling was performed at the Navy's initiative. Although it did not represent an area of concern exhibiting evidence of potential adverse environmental impact, elevated levels of lead were identified in soil in the vicinity of background sampling location 8-SS-5. Task 2 recommended a removal action at AOC 8 (specifically 8-SS-5), to reduce lead in soil to acceptable levels.
The Navy has delineated and is in the progress of soil removal action at Background Location 8-SS-5. More information on the remediation of lead impacted soil can be found in Section 3.1.5.

AOC 9: Monitoring Wells at the Old Base Landfill

Ground-water samples were collected from wells downgradient of the OBL during March 1997 and July 1998. Nine VOC and one Semivolatile Organic Compound (SVOC) were reported in ground-water samples collected during the two sampling events. The collection of ground-water samples from monitoring wells in the vicinity of the OBL was intended to provide analytical data in support of ground-water monitoring requirements for the OBL. The data will be added to the OBL ground-water database.

AOC 10: Rubble Landfill

Ground-water samples were collected from existing Rubble Landfill monitoring wells during the March 1997 sampling event. The ground-water samples were analyzed for VOC, metals, and general chemical parameters. The analytical results of ground-water samples collected at the Rubble Landfill (AOC 10) indicate that no metals were identified in concentrations that exceeded screening values and no VOC were reported above the detection limit. The collection of ground-water samples from monitoring wells in the vicinity of the Rubble Landfill was intended to provide analytical data in support of ground-water monitoring requirements. The data will be added to the Rubble Landfill ground-water database. The Rubble Landfill closed in 1996.

TABLE 2-1 SUMMARY OF TASK 1 INSPECTIONS OF USTs, ASTs, AND POLs AT NTC-B

Category Inspected	Findings	Navy Action
USTs	UST may be located at Bldg 760; Subsurface contamination was identified at some of the UST sites; Inconclusive ground water results for the former Dry Cleaning Facility (Bldg 718); Possible USTs at Buildings N and M.	OHM removed the UST from Bldg 760 and also excavated contaminated soil from this location; 13 ground water monitoring wells were installed by Clean Harbor and Versar; Additional sampling for the former Dry Cleaning Facility was performed under Task 2; OHM did not locate any USTs in the vicinity of Buildings N and M.
ASTs	One empty AST was located in basement of Bldg J-J; 2 ASTs were located in the vicinity of the former Brig (Bldg 627); One abandoned AST behind Bldg 526.	OHM removed the ASTs from these locations.
POLs	Bldg 529 (Fuel Oil Pump House) had no evidence of petroleum contamination; Several areas with stained soil included Buildings 760, 632, and 103; Several containers and drums were identified near the Cecil Community College trailers and at Bldg 760; 10 55-gal drums were in the Drill Field near Bldg 102.	The staining observed near Buildings 632, 103, and 760 appears to be a housekeeping issue; The containers and drums at the Cecil Community College trailers, Bldg 760, and the Drill Field near Bldg 102 were removed by OHM during the site cleanup.

TABLE 2-2 SUMMARY OF CHEMICAL CONTAINERS IDENTIFIED DURING THE TASK 1 SITE INSPECTION AT NTC-B

Building No.	Staining	Stressed Vegetation	Description	Navy Action
404 B	No	No	Ten unlabeled 55-gal drums and ten unlabeled 5-gal drums.	Drums were removed during the OHM site cleanup.
502 B	No	No	Two unlabeled 1-gal buckets, one unlabeled 5-gal bucket, two unlabeled 1-gal jugs.	Containers were removed.
505 A	Floor	No	One empty 1-gal jug labeled as sodium hypochlorite.	Stained floor was addressed as a housekeeping issue; The jug was removed during the OHM site cleanup.
506 A	Floor + Soil	No	Several unlabeled 1-gal and 5-gal cans, possible paint containers.	Stained floor and soil was addressed as a housekeeping issue; Containers were removed.
631	Floor	No	Several unlabeled 1-gal and 5-gal cans, possible paint containers.	Stained floor was addressed as a housekeeping issue; Containers were removed during the OHM site cleanup.
529	No	No	Two oxygen cylinders, one empty unlabeled 5-gal bucket.	Containers were removed.
35	No	No	One partially-filled, unlabeled 55-gal plastic drum.	Drum was removed during the OHM site cleanup.
103 B	Floor	No	One empty 1-gal can of paint stripper.	Stained floor was addressed as a housekeeping issue; Container was removed during the OHM site cleanup.
103	No	No	Several empty unlabeled 5-gal buckets and one acetylene gas cylinder adjacent to storage bins.	Containers were removed during the OHM site cleanup.
102	No	No	One unlabeled 35-gal drum, one 5-gal bucket of floor sealer, one automotive battery, one empty 55-gal drum.	Items were removed during the OHM site cleanup.
693	Floor	No	One full gas can, one automotive battery, six acetylene cylinders, one R-22 canister, four fire extinguishers.	Containers were removed during the OHM site cleanup; The soil floor under the oil-filled leaking transformer was remediated.

TABLE 2-2 (Continued)

Building No.	Staining	Stressed Vegetation	Description	Navy Action
693 Dumpster	No	No	Several empty chemical containers.	Containers were removed during the OHM site cleanup.
692 E	No	No	One empty 5-gal bucket, several empty 1-gal cans, one partially filled gas can, one partially filled 55-gal drum.	Containers were removed.
760	No	No	One empty 55-gal drum.	Drum was removed.
713+714	No	No	One unlabeled full 55-gal drum.	Containers were removed.
659A	No	No	Two unlabeled partially filled 55-gal drums containing tar-like substance, one partially buried 55-gal drum	Drums were removed during the OHM site cleanup.
88	No	No	One empty unlabeled 55-gal drum.	The drum was removed during the OHM site cleanup.
31	No	No	Several gas cylinders and one unlabeled 55-gal drum.	The items were removed during the OHM site cleanup.

TABLE 2-3 SUMMARY OF OTHER TASK 1 AREAS INSPECTED AT NTC-B

Area Inspected	Findings	Navy Action
Hazardous Materials	Hazardous materials were stored at the Sewage Treatment Plant (Bldg 692), Water Treatment Plant (Bldg 693), Pesticide Shop (Bldg 683), barn (Bldg 53), and Heavy Equipment Shops (Bldg 713 and 714).	These locations were inspected and any remaining hazardous materials were removed by OHM during the site cleanup.
Demolished Buildings	Some demolished buildings were listed as hazardous/flammable storage buildings, laboratories, explosive/small arms magazines, auto vehicle maintenance shops, public works shops, and incinerators.	These locations were inspected and any evidence of environmental concerns were recorded.
Hazardous Waste Disposal	Interviews revealed that most of the hazardous waste materials were stored in the Job Corps buildings (101, 103, and 105), Sewage Treatment Plant (Bldg 692), Water Treatment Plant (Bldg 693), and a barn (Bldg 53).	Hazardous waste manifests were reviewed in order to establish where the materials that were disposed of as hazardous wastes had been originally stored.
Coal Storage Area	A site inspection was done at the Coal Storage Area.	No visual evidence of environmental concerns.
Pesticide Shop	The site inspection revealed that the buildings in this area were demolished.	No visual evidence of environmental concerns; no record of any spills or accidental releases.
Transformer Buildings/Storage Areas	Site inspection of former Buildings 713 and 714 (Heavy Equipment Shops).	No evidence of transformer oil releases or spills; No record of spills or leaks.
Polychlorinated Biphenyls	PCB Survey was reviewed and all oil-filled electrical equipment containing greater than 50 mg/L PCB has been removed; During the Task 1 investigation 3 transformers, several transformer canisters, 60 transformer platforms, and 4 areas where canisters were on the ground were observed.	No visual evidence of spills or releases of transformer oil in these areas; OHM removed electrical equipment and excavated stained soil that they discovered during the site cleanup.
Archaeologic and Historic Sites	Two sites on NTC-B are listed on the National Register of Historic Places (The Tome School District and the Snow Hill Archeological Site).	The Navy has boarded up the windows and has repaired the roofs of three of the buildings at the Tome School District.
Historical Information	Aerial photos were reviewed; Photographs from 1938 indicated the presence of large agricultural fields prior to the Navy's acquisition of the site.	Review of the photographs did not reveal visual evidence of environmental concerns that have not already been identified.
Environmental Database Search	Environmental database search by EcoSearch Environmental Resource revealed two Federal sites and one Maryland site within a mile of NTC-B; Nine UST sites were identified within 0.25-mi radius.	The adjacent sites do not appear to present a significant environmental concern to NTC-B.
Miscellaneous	Circular concrete structure is located near Bldg 205; Acid sewage line is located near the former coal storage area.	Areas were investigated.

TABLE 2-4 SUMMARY OF TASK 1 AREAS INSPECTED, 1996 RECOMMENDATIONS, AND CURRENT NAVY ACTION

Area Inspected	Concern	1996 Recommendation	Navy Action
EPA/MDE Correspondence			
Lead Based Paint Areas	Potentially elevated lead concentrations in soils.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	Task 2 field investigation conducted (pre-final report July 1999); Navy will disclose the presence of lead in soil to potential future property owners; Remediated lead in soil at Water Towers.
Open Salvage/ Storage Yard	Potentially elevated metal and PAH concentrations at Open Salvage/Storage Yard and Coal Storage Area.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	Task 2 field investigation conducted (pre-final report July 1999); Human Health Risk Assessment was completed; Navy removal action completed July 1999.
Coal Storage Area	Historical coal storage.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	Task 2 field investigation conducted (pre-final report July 1999).
Former Pesticide Shop, Bldg 683	Historical storage/mixing of pesticides.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	Task 2 field investigation conducted (pre-final report July 1999); Human Health Risk Assessment was completed; Navy removal action in progress.
PCB - Former Transformer Storage Yard	Historical storage/repair of transformers; Potentially elevated PCB concentrations in vicinity of Buildings 713 and 714.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	Task 2 field investigation conducted (pre-final report July 1999).
UST Areas			
Former Dry Cleaning Facility, Bldg 718	UST case may be reopened by CERCLA Division of MDE in order to address more stringent detection limits for chlorinated solvents.	Await notification from MDE.	Additional sampling was conducted under Task 2 (pre-final report July 1999); Human Health Risk Assessment was completed.
Former Gas Station, Bldg 756A	Open UST case with MDE, likely to be closed.	Conduct required sampling; Await notification from MDE.	Additional sampling was conducted under Task 2 (pre-final report July 1999); Results sent to MDE for closure assessment.

TABLE 2-4 (Continued)

Area Inspected	Concern	1996 Recommendation	Navy Action
Suspected USTs			
Bldg M	Potential UST location.	Conduct additional inspection, based on results of inspection may excavate suspect area in Task 2.	No USTs were located in the vicinity of Building M during the OHM site cleanup project.
Bldg N	Potential UST location.	Conduct additional inspection, based on results of inspection may excavate suspect area in Task 2.	No USTs were located in the vicinity of Building N during the OHM site cleanup project.
Bldg 760 (Automotive Shop)	Potential UST location	Conduct additional inspection, based on results of inspection may excavate suspect area in Task 2.	A waste oil UST was excavated and petroleum impacted soil was removed by OHM.
AST Areas			
Bldg J-J	AST in basement.	Navy to remove.	AST was removed by OHM.
Bldg 526	Abandoned AST in woods behind building.	Navy to remove.	AST was removed.
POL Areas			
Bldg 529	Former heating oil storage facility.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	Additional work under Task 2 was found unnecessary; Recent investigation found no environmental concerns.
Bldg 760 (Automotive Shop)	Waste oil containers, stained floors.	Navy to remove containers and investigate stained floors.	This task was accomplished during the OHM site cleanup; Stained floors were addressed as a housekeeping issue.
Miscellaneous Containers			
Bldg 404B	Ten empty 55 gal drums, ten empty 5 gal buckets.	Navy to remove containers.	This task was accomplished during the OHM site cleanup.
Bldg 502B	One 5 gal bucket, four 1 gal containers.	Navy to remove containers.	Containers were removed.
Bldg 505A	Empty 1 gal container of sodium hypochlorite, stained soil behind western side of building.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	Site inspection of the Navy revealed Bldg 505A a housekeeping issue, no need to include in Task 2; This task was accomplished during the OHM site cleanup.

TABLE 2-4 (Continued)

Area Inspected	Concern	1996 Recommendation	Navy Action
Bldg 506A	Several 5 and 1 gal containers, stained and cracked concrete floor.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	Site inspection of the Navy revealed Bldg 506A to be a housekeeping issue, no need to include in Task 2; Containers were removed; Housekeeping issue was addressed by the Navy.
Bldg 631	Several 5 gal and 1 gal containers, stained floor, hole in wall at floor level.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	Stained floor was addressed as a housekeeping issue – no need to include in Task 2; This task was accomplished during the OHM site cleanup.
Bldg 529	Two oxygen gas cylinders, one empty 5 gal bucket.	Navy to remove containers.	Containers were removed.
Bldg 35	One (1) partially filled 55 gal drum.	Navy to remove containers.	This task was accomplished during the OHM site cleanup.
Bldg 103B	Empty container of paint stripper, stained floors.	Navy to remove containers.	Stained floors were addressed as a housekeeping issue; This task was accomplished during the OHM site cleanup.
Bldg 103	Several empty 5 gal containers, one (1) acetylene gas cylinder.	Navy to remove containers.	This task was accomplished during the OHM site cleanup.
Bldg 102	One (1) automotive battery, one (1) 5 gal bucket floor sealer, one (1) 35 gal drum with unknown solid contents.	Navy to remove containers.	This task was accomplished during the OHM site cleanup.
Bldg 693 (Water Treatment Plant)	One (1) full gas can, one (1) automotive battery, one (1) R-22 canister, six acetylene cylinders, four fire extinguishers, floor stains in machinery room, waste dumpster full of chemical containers.	Navy to remove containers.	This task was accomplished during the OHM site cleanup.
Bldg 692E	One (1) empty 5 gal bucket, several empty 1 gal containers, one (1) partially filled gas can, one partially filled 55 gal drum with solid contents.	Navy to remove containers.	Containers were removed.
Bldg 760 (Automotive Shop)	One (1) empty 55 gal drum.	Navy to remove containers.	This task was accomplished during the OHM site cleanup.

TABLE 2-4 (Continued)

Area Inspected	Concern	1996 Recommendation	Navy Action
Bldg 713/714 (Heavy Equipment Shops)	One (1) full 55 gal drum.	Navy to remove containers.	Containers were removed.
Bldg 659A	Two partially filled 55 gal drums, one (1) buried 55 gal drum.	Navy to remove containers.	This task was accomplished during the OHM site cleanup.
Bldg 88	One (1) empty 55 gal drum.	Navy to remove containers.	This task was accomplished during the OHM site cleanup.
Bldg 31	Gas cylinders, one (1) unlabeled full 55 gal drum.	Navy to remove containers.	This task was accomplished during the OHM site cleanup.
Bldg 53	Historical storage of pesticides.	Investigate building and remove containers if present.	This task was accomplished during the OHM site cleanup.
Asbestos			
Asbestos materials in good condition	Proper disclosure.	Locations to be disclosed in EBS Report and/or other suitable document to be provided to transferee.	Locations to be disclosed in a separate document.
Asbestos materials (transite chips from demolition activities in soil)	Assessment of potential human health risks.	Asbestos materials should be assessed.	A disclosure statement on all remaining asbestos containing materials will be made to the new property owner; All buildings/structures with asbestos material have been boarded up and signs have been posted.
Oil-Filled Transformers			
Oil-Filled Transformers (Bldg 693)	Oil-filled transformers.	Navy to facilitate proper removal and disposal.	This task was accomplished during the OHM site cleanup.
Oil-Filled Transformers (Pole-Mounted Transformers)	Potentially oil-filled transformers throughout NTC-B.	Navy to assess presence/absence of oil in pole-mounted transformers; all oil-containing transformers to be properly removed and disposed of.	This task was accomplished during the OHM site cleanup; OHM excavated soil near Bldg 628.
Miscellaneous			
Acid Sewage Line	None.	No further action.	Not Applicable.
Temporary Monitoring Wells	Temporary monitoring wells Throughout NTC-B.	Navy to facilitate proper removal/abandonment of all temporary monitoring wells.	This task was accomplished during the OHM site cleanup.

TABLE 2-4 (Continued)

Area Inspected	Concern	1996 Recommendation	Navy Action
International Crane (Bldg 627)	AST's, abandoned vehicles, abandoned trailers, 55 gal drums on Drill Field, stained surfaces.	Navy to facilitate contractor removal/remediation.	ASTs, abandoned vehicles and trailers, and drums were removed; Staining was addressed as a housekeeping issue.
Cecil Comm. College	Chemical containers, stained surfaces.	Navy to facilitate contractor removal/remediation.	Staining was addressed as a housekeeping issue; Containers were removed.
Concrete Circular Structure (Bldg 205)	Unknown.	Position Paper recommended that the Navy should investigate this structure.	The structure was investigated; No Further Action.

TABLE 2-5 SUMMARY OF AREAS OF CONCERN IDENTIFIED IN TASK 1 WITH RECOMMENDATIONS FOR ACTIONS TO BE TAKEN AND CURRENT STATUS

AOC No.	AOC Description or Location	Concern	Recommended Action	Basis for Identification as an AOC (a)	Regulatory Program (b)	Actions Taken & Status
1a	Lead Based Paint Areas (Water Towers 689 & 1054)	Potentially elevated lead concentrations in soils.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper	DoD Lead Based Paint Policy	Task 2 field investigation conducted (pre-final report July 1999); Lead levels exceeded screening values; Remediated lead in soil.
1b	Lead Based Paint Areas (Officer Housing Area - Tome Institute)	Potentially elevated lead concentrations in soils.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper	DoD Lead Based Paint Policy	Task 2 field investigation conducted (pre-final report July 1999); Navy will disclose presence of lead in soil to potential property owners.
1c	Lead Based Paint Areas (Bldg 720)	Potentially elevated lead concentrations in soils.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper	DoD Lead Based Paint Policy	Task 2 field investigation conducted (pre-final report July 1999); Lead levels below screening values.
2a	Open Salvage/ Storage Yard	Potentially elevated metal and PAH concentrations at Open Salvage/Storage Yard and Coal Storage Area.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper	EBS AOC	Task 2 field investigation conducted (pre-final report July 1999); Human Health Risk Assessment was completed and PRGs were developed; Navy removal action completed July 1999.
2b	Coal Storage Area	Historical coal storage.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper	EBS AOC	Task 2 field investigation conducted (pre-final report July 1999); Task 2 investigation found no COPC; Site closed - No Further Action.

TABLE 2-5 (Continued)

AOC No.	AOC Description or Location	Concern	Recommended Action	Basis for Identification as an AOC (a)	Regulatory Program (b)	Actions Taken & Status
3	Former Pesticide Shop, Bldg 683	Historical storage/mixing of pesticides.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper	EBS AOC	Task 2 field investigation conducted (pre-final report July 1999); Human Health Risk Assessment was completed and PRGs were developed; Navy removal action in progress.
4	PCB - Former Transformer Storage Yard	Historical storage/repair of transformers; Potentially elevated PCB concentrations in vicinity of Buildings 713 and 714.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper	TSCA	Task 2 field investigation conducted (pre-final report July 1999); AOC 4 is recommended for No Further Action.
5	Old Base Landfill-Asbestos (IR Site 1)	Potentially elevated asbestos concentrations migrating from Old Base Landfill.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper	CERCLA/ NCP-Navy IR Program	Task 2 field investigation conducted (pre-final report July 1999); AOC 5 is recommended for No Further Action.
6	Former Dry Cleaning Facility, Bldg 718	UST case may be reopened by CERCLA Division of MDE in order to address more stringent detection limits for chlorinated solvents.	Await notification from MDE.	EPA/MDE Position Paper	EBS AOC	MDE requested sampling; sampling was conducted under Task 2 (pre-final report July 1999); Human Health Risk Assessment was completed; No Further Action .
7	Former Gas Station, Bldg 756A	Open UST case with MDE, likely to be closed.	Conduct required sampling, await notification from MDE.	EPA/MDE Position Paper	MDE Oil Control Program	MDE requested sampling; sampling was conducted under Task 2 (pre-final report July 1999); Results sent to MDE for closure assessment.
8	Background Sampling	This “AOC” number has been assigned to the sampling performed to assess background levels in site soil.	Perform sampling and analysis as part of EBS Task 2.	EBS Task 2 data need.	Not Applicable	Background Sampling & Analysis performed during EBS Task 2 field effort.

TABLE 2-5 (Continued)

AOC No.	AOC Description or Location	Concern	Recommended Action	Basis for Identification as an AOC (a)	Regulatory Program (b)	Actions Taken & Status
9	Old Base Landfill – Ground Water (IR Site 1)	Historical sanitary landfill containing municipal wastes, pesticides, building demolition debris.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper	CERCLA/ NCP-Navy IR Program	Task 2 field investigation conducted (pre-final report July 1999); Data to be used to supplement existing monitoring program; Human health and ecological risk assessment was completed (final report April 1999).
10	Rubble Landfill	Landfill that received rubble, including asbestos-containing materials resulting from the building demolition project.	Collect ground water samples in Task 2.	EPA/MDE Position Paper	EBS AOC	Task 2 field investigation conducted (pre-final report July 1999); Data to be used to supplement existing monitoring program; Landfill closed in 1996.
11	Fire Training Area (IR Site 2)	Historical releases of petroleum, solvents, etc.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper	CERCLA/ NCP-Navy IR Program	Human health and ecological risk assessment was completed (final report April 1999).
12	Bldg M	Potential UST location.	Conduct additional inspection, based on results of inspection may excavate suspect area in Task 2.			No USTs were located in the vicinity of Building M during the OHM site cleanup project.

TABLE 2-5 (Continued)

AOC No.	AOC Description or Location	Concern	Recommended Action	Basis for Identification as an AOC (a)	Regulatory Program (b)	Actions Taken & Status
13	Bldg N	Potential UST location.	Conduct additional inspection, based on results of inspection may excavate suspect area in Task 2.			No USTs were located in the vicinity of Building N during the OHM site cleanup project.
14	Bldg 760 (Automotive Shop)	Potential UST location; Waste oil containers, stained floors; Empty 55 gal drum.	Conduct additional inspection, based on results of inspection may excavate suspect area in Task 2; Navy to remove containers and drum and clean floors.	EPA/MDE Position Paper		A UST waste oil tank was excavated and petroleum impacted soil was removed by OHM; Containers/drum were removed by OHM; Stained floors were addressed as a housekeeping issue.
15	Bldg J-J	AST in basement.	Navy to remove.			AST was removed by OHM.
16	Bldg 526	Abandoned AST in woods behind building.	Navy to remove.			AST was removed.
17	Bldg 529	Former heating oil storage facility.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.			Additional work under Task 2 was found unnecessary; Recent investigation found no environmental concerns.
18	Bldg 404B	Ten empty 55 gal drums, ten empty 5 gal buckets.	Navy to remove containers.	EPA/MDE Position Paper		This task was accomplished during the OHM site cleanup.
19	Bldg 502B	One 5 gal bucket, four 1 gal containers.	Navy to remove containers.	EPA/MDE Position Paper		Containers were removed.
20	Bldg 505A	Empty 1 gal container of sodium hypochlorite, stained soil behind western side of building.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper		Site inspection of the Navy revealed housekeeping issue, no need to include in Task 2; This task was accomplished during the OHM site cleanup.

TABLE 2-5 (Continued)

AOC No.	AOC Description or Location	Concern	Recommended Action	Basis for Identification as an AOC (a)	Regulatory Program (b)	Actions Taken & Status
21	Bldg 506A	Several 5 and 1 gal containers, stained and cracked concrete floor.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper		Site inspection of the Navy revealed housekeeping issue, no need to include in Task 2; Containers were removed.
22	Bldg 631	Several 5 gal and 1 gal containers, stained floor, hole in wall at floor level.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper		Site inspection of the Navy revealed housekeeping issue, no need to include in Task 2; This task was accomplished during the OHM site cleanup.
23	Bldg 529	Two oxygen gas cylinders, one empty 5 gal bucket.	Navy to remove containers.	EPA/MDE Position Paper		Containers were removed.
24	Bldg 35	One (1) partially filled 55 gal drum.	Navy to remove containers.	EPA/MDE Position Paper		This task was accomplished during the OHM site cleanup.
25	Bldg 103B	Empty container of paint stripper, stained floors.	Navy to remove containers.	EPA/MDE Position Paper		Stained floors was addressed as a housekeeping issue; This task was accomplished during the OHM site cleanup.
26	Bldg 103	Several empty 5 gal containers, one (1) acetylene gas cylinder.	Navy to remove containers.	EPA/MDE Position Paper		This task was accomplished during the OHM site cleanup.
27	Bldg 102	One (1) automotive battery, one (1) 5 gal bucket floor sealer, one (1) 35 gal drum with unknown solid contents.	Navy to remove containers.	EPA/MDE Position Paper		This task was accomplished during the OHM site cleanup.

TABLE 2-5 (Continued)

AOC No.	AOC Description or Location	Concern	Recommended Action	Basis for Identification as an AOC (a)	Regulatory Program (b)	Actions Taken & Status
28	Bldg 693 (Water Treatment Plant)	One gas can, one automotive battery, one R-22 canister, six acetylene cylinders, four fire extinguishers, floor stains in machinery room, waste dumpster full of chemical containers; Oil- filled transformer.	Navy to remove containers; Investigate oil-filled transformer.	EPA/MDE Position Paper	TSCA	Containers were removed during the OHM site cleanup; Floor under the oil-filled leaking transformer was remediated in Bldg 693.
29	Bldg 692E	One (1) empty 5 gal bucket, several empty 1 gal containers, one (1) partially filled gas can, one partially filled 55 gal drum with solid contents.	Navy to remove containers.	EPA/MDE Position Paper		Containers were removed.
30	Bldg 713/714 (Heavy Equipment Shops)	One (1) full 55 gal drum.	Navy to remove containers.	EPA/MDE Position Paper		Containers were removed.
31	Bldg 659A	Two partially filled 55 gal drums, one (1) buried 55 gal drum.	Navy to remove containers.	EPA/MDE Position Paper		This task was accomplished during the OHM site cleanup.
32	Bldg 88	One (1) empty 55 gal drum.	Navy to remove containers.	EPA/MDE Position Paper		This task was accomplished during the OHM site cleanup.
33	Bldg 31	Gas cylinders, one (1) unlabeled full 55 gal drum.	Navy to remove containers.	EPA/MDE Position Paper		This task was accomplished during the OHM site cleanup.
34	Bldg 53	Historical storage of pesticides.	Investigate building and remove containers if present.	EPA/MDE Position Paper		This task was accomplished during the OHM site cleanup.
35	International Crane (Bldgs 102 & 627)	AST's, abandoned vehicles, abandoned trailers, 55 gal drums on Drill Field, stained surfaces.	Navy to facilitate contractor removal/remediation.	EPA/MDE Position Paper		ASTs, abandoned vehicles and trailers, and drums were removed; Stained surfaces were addressed as a housekeeping issue.

TABLE 2-5 (Continued)

AOC No.	AOC Description or Location	Concern	Recommended Action	Basis for Identification as an AOC (a)	Regulatory Program (b)	Actions Taken & Status
36	Cecil Comm. College	Chemical containers, stained surfaces.	Navy to facilitate contractor removal/remediation.			Containers were removed; Stained surfaces were addressed as a housekeeping issue.
37	Asbestos materials (good condition)	Proper disclosure.	Locations to be disclosed in EBS Report and/or other suitable document to be provided to transferee.		Clean Air Act	Locations to be disclosed in a separate document.
38	Asbestos materials (transite chips from demolition activities in soil)	Assessment of potential human health risks.	Asbestos materials should be assessed.	FFCA	Clean Air Act	A disclosure statement on all remaining asbestos containing materials will be made to the new owner; All buildings/structures with asbestos material have been boarded up and signs have been posted.
39	Oil-Filled Pole-Mounted Transformers (Bldg 628 Main Transformer Substation)	Potentially oil-filled transformers throughout NTC-B.	Navy to assess presence/absence of oil in pole-mounted transformers; all oil-containing transformers to be properly removed and disposed of.	EPA/MDE Position Paper	TSCA	OHM recovered and removed transformers during the site cleanup; OHM remediated soil under a leaking transformer near Bldg 628.
40	Acid Sewage Line	None.	No further action.			No further action.
41	Temporary Monitoring Wells	Temporary monitoring wells Throughout NTC-B.	Navy to facilitate proper removal/abandonment of all temporary monitoring wells.	EPA/MDE Position Paper		This task was accomplished during the OHM site cleanup.
42	Concrete Circular Structure (Bldg 205)	Unknown.	Position Paper recommended that the Navy should investigate this structure.	EPA/MDE Position Paper		The structure was investigated; No Further Action.
43	Bldg 7	Additional ASTs may exist at NTC-B.	OHM to investigate.			OHM removed an AST during the site cleanup.

TABLE 2-5 (Continued)

AOC No.	AOC Description or Location	Concern	Recommended Action	Basis for Identification as an AOC (a)	Regulatory Program (b)	Actions Taken & Status
44	Bldg 723	Additional ASTs may exist at NTC-B.	OHM to investigate.			OHM removed an AST during the site cleanup.

(a) Basis for Identification as an AOC- refers to whether an AOC was identified as part of the EBS review, correspondence from the regulators, was part of an ongoing compliance or remedial program, or by some other means.
(b) Refers to the Regulatory Program under which the AOC is or will be addressed:
CERCLA/NCP- Consistent with CERCLA and the National Contingency Plan (NCP) under the Navy IR Program
TSCA- Toxic Substances Control Act (e.g., PCB remediation)
EBS AOC- Refers to AOCs not under a formal program, but are being addressed as part of the EBS process to fulfill all actions necessary to protect human health and the environment are taken prior to property transfer.
DOD POLICIES: Refers to DoD policies for Asbestos, Lead Paint, and Radon at BRAC Properties (Memorandum from Office of The Under Secretary of Defense, 31 October 1994)

3. SUMMARY OF ENVIRONMENTAL AREAS OF CONCERN NOT COVERED IN EBS TASKS 1 AND 2

3.1 SUMMARY OF AREAS OF CONCERN BY ENVIRONMENTAL PROGRAM

3.1.1 Ground Water Monitoring at the Former Gas Station 756A

Five USTs containing various petroleum products were formerly located in the vicinity of Building 756A. During the removal of these USTs in early 1990, evidence of leakage from the tanks was observed by MDE, and ground-water monitoring wells were installed to assess the presence of elevated concentrations of petroleum constituents in ground water. Soil was removed from the area surrounding the USTs. Ground-water monitoring activities were conducted in the vicinity of the former gas station, and the analytical results were reviewed by MDE. Although detectable concentrations of petroleum constituents have been decreasing over time, MDE requested additional analytical data prior to granting closure to this site. Ground water was sampled at one monitoring well (756-A3) approximately every six months. The EBS Task 2 investigation (EA 1999a) examined the data from this well to evaluate the presence of COPC related to the USTs. The Task 2 investigation found ethylbenzene, toluene and xylene isomers were in concentrations exceeding screening levels.

Subsequent to the Task 2 investigation, MDE requested the Navy to include the analysis of Methyl Tertiary Butyl Ether (MTBE) in the ground-water sample from 756A-3. The results of this sampling round (July 1999) did not detect the presence of MTBE and the concentration levels of the other constituents sampled remained relatively constant. Closure of this site is pending formal notification from MDE.

During the asbestos remediation project two hydraulic lifts were discovered at the former Gas Station. The hydraulic lifts were removed and the soil around the lifts was remediated. Confirmation samples were collected and the results were sent to MDE. MDE approved the cleanup process and closure of this site. A completion report was prepared by the Environmental Detachment Charleston (EDC) and submitted to MDE in August 1999 (EDC 1999). Formal closure of this site is pending notification from MDE.

3.1.2 IR Program Sites

Two IR program sites are located within NTC–B. The OBL (Site 1) and the FTA (Site 2). Site 1 was operated as a sanitary landfill from the early 1940s until 1976. The landfill received general municipal wastes, as well as unused pesticides that were disposed in 1968 and debris from 40 buildings that were demolished in the early 1970s. Site 2 was operated as a Fire Training Area and included a concrete pad, an unlined drainage ditch, and an earthen oil/water separator pit with a clay lined floor. During fire training sessions, oil-soaked structures atop the concrete pad were set ablaze and extinguished. The water and oil run-off flowed into the drainage ditch and the separator pit where the oil was separated from the water. The water was then discharged to Happy Valley Branch.

A Remedial Investigation (RI) was performed by E&E to evaluate suspected problems associated with past waste disposal and spill sites (E&E 1999). The Navy initiated Interim Remedial Measures (IRM) at both sites prior to completion of the RI/FS report. The IRM was conducted by OHM. The RI included an HHRA and Ecological Risk Assessment (ERA) for both sites. The results of the HHRA and ERA found risk to human health and the environment. The RI areas that were identified as driving risk were re-sampled at the OBL and FTA in March 1999 for a post-removal action Human and Ecological Risk Characterization (EA 1999c).

3.1.2.1 Old Base Landfill (IRP Site 1)

The OBL is located on the southeast side of a deeply-incised stream valley leading up from the Susquehanna River flood plain. A tributary to the stream has cut a small valley on the southeast side of the landfill, so that the landfill is situated on the ridge between the two streams.

In 1987, the OBL was identified as an area where potential subsurface or surface contamination may have resulted from historic NTC-B facility operations and disposal practices. Versar, Inc. was contracted to conduct a hydrogeological investigation to determine whether additional field efforts would be necessary. Results of the investigation indicated the presence of chlorobenzene above the MCL in two monitoring wells and low levels of pesticides in the surface water and sediment.

An RI was completed by Ecology & Environment (E&E 1999). The conclusions in the RI report included:

- There are no water supply wells, public or private in the areas impacted by the OBL, but ground-water exposure risk was calculated for possible future users.
- Health effects estimated for the maximum contaminant levels exceeded the Hazard Index of 1.0 for future potential use of ground water.
- The ecological risk assessment found potential risks to benthic invertebrates, fish, and upper trophic predators (birds and mammals).
- Site 1 was recommended for an FS to consider remedial measures to reduce those remaining risks not directly addressed by the Interim Remedial Measures.

Most of the data for the RI was gathered while the site was still wooded and uncapped. Subsequently, the landfill was capped. The RI data assessments are based on pre-existing conditions supplemented by confirmation results as appropriate. Approximately 14 acres of forest were cleared and grubbed, and an additional 20 acres were cleared for access roads, borrow pits, waste excavation, and stormwater management facilities. Excavated soils from the site and the pits within the landfill were placed in a cell reserved for contaminated materials. The surface of the cell was graded and borrow material added to provide a clean surface for the placement of the landfill cover.

The landfill cover installed consists of a 2-ft thick, compacted, soil layer over which geonet/geotextile composite was installed to serve as a gas collection layer. The low permeability layer is a high density polyethylene geomembrane. The next layer is a

geonet/geotextile composite drainage net. Initially, an 18 inch thick barrier layer of compacted silty sand was placed above the geotextile drainage system. In 1999, the sand was replaced over most of the cap with a layer of gravel topped by a clay soil. Above the drainage layer is compacted silty sand installed to serve as a thick barrier layer. Finally, a 6-in layer consisting of compacted topsoil was installed as the vegetative top layer. The resulting 14-acre cap was hydroseeded and mulched. Other features include access roads, restored wetlands in the northern drainage areas, and an ancillary drainage system. A series of stormwater retention basins control runoff from the landfill and gas vent riser pipes were installed through the landfill cap to vent the gas collection layer.

The results of the July 1999 post-removal action Human and Ecological Risk Characterization still found human risks for future adult and child residents at the OBL (EA 1999c). The ecological characterization however, showed a marked reduction in the potential for ecological risk from sediment. Using appropriate risk management measures there are no unacceptable human or ecological risks.

3.1.2.2 Fire Training Area (IRP Site 2)

The FTA was constructed on the gently sloping (approximately 3.3 percent) northwest bank of Happy Valley Branch. The actual fire fighting training was performed on a concrete pad and sloped to the southeast towards a collection ditch and oil/water separator pit. The pit was located adjacent to the southeast edge of the pad, between the pad and the creek. Water from the separator pit drained through a subsurface valve and piping system discharging to a shallow ditch. A barrier built of steel railroad track and wood across the creek below the discharge of the separator pit has partially dammed the creek allowing sediment (sand and gravel) to accumulate behind it, raising the creek bed approximately five feet.

In 1988, the FTA was identified as requiring a hydrogeological investigation, which was conducted by Versar, Inc. under the Navy IR Program. The oil separator pit was the focus of this investigation. Results of the sampling and analysis indicated only minor releases of potentially hazardous constituents at levels in most cases below Applicable or Relevant and Appropriate Requirements (ARARs). An RI was conducted by E & E from 1990 until 1994 (E&E 1999). The conclusions of the RI included:

- There are no water supply wells, public or private in the areas impacted by the FTA, but groundwater exposure risk was calculated for possible future users.
- The calculated lifetime excess risk of cancer from ingestion of groundwater exceeded 10^{-4} and the Hazard Index (HI) is greater than 1.0.
- The ecological risk assessment found potential risks to birds and mammals.
- Site 2 was recommended for an FS to consider remedial measures to reduce those remaining risks not directly addresses by the IRM.

From July 1994 through June 1995, a removal action was done by OHM where they performed delineation of contamination, removed contaminated soils and sediment, and conducted confirmation sampling.

In 1994 the training structures on the Fire Training Area Pad and part of the concrete pad were demolished and removed. Contaminated soil from the oil separator pit was excavated until confirmation samples collected had concentrations of TPH below the action level of 100 mg/kg. Soil was also removed from a wetland on the northeast side of the pad where soils were found to be contaminated with pesticides.

The site was restored by placing clean fill from off-site in the excavated areas. The site was returned to the topography for wetlands and clean drainage, and the area where the pad had been removed was revegetated. Clean fill was mixed with an imported compost material, placed in the separator pit, and graded to design specification. The drainage swale was constructed of rip rap. The separator pit was replanted as an emergent wetland. The wetlands affected by pesticides were replanted with grass and trees native to the area. Another wetland area was constructed adjacent to the old reservoir to offset net wetland losses arising from the environmental remedial actions at Sites 1 and 2.

Most of the data for RI was gathered while the site was still wooded. The RI data assessments are based on pre-existing conditions supplemented by confirmation results as appropriate.

The results of the July 1999 post-removal action Human and Ecological Risk Characterization still found human risks for future adult and child residents at the FTA (EA 1999c). The ecological characterization however, showed a marked reduction in the potential for ecological risk from sediment. Using appropriate risk management measures there are no unacceptable human or ecological risks.

3.1.3 PCB Cleanup

Subsequent to Task 1, OHM gathered electrical equipment from many areas of NTC–B (OHM 1997).

Transformers

A total of 119 electrical transformers were recovered by OHM from 419 possible transformer locations identified by the Navy (OHM 1997). Of the 119 transformers recovered, only 18 were intact and contained oil. Of these 18 transformers, only one contained PCB oil. Most of the recovered transformers consisted only of the empty steel case. Six dry transformers were left in place due to the extensive dismantling and building modification necessary to remove the complete unit. Because of the dry design, these transformers pose no health or environmental risks.

Capacitors

During the site cleanup, 19 capacitors were located and recovered by OHM (OHM 1997). Most of the capacitors contained oil and were typically located indoors, usually inside a building's electrical control room. During OHMs search, one capacitor was found leaking. This capacitor

was located near the gravel switch yard northwest of Building 628 (Main Transformer Substation). A sample collected within the gravel layer by OHM indicated that PCB were present. The capacitor and the surrounding/underlying soil was removed for disposal by OHM. A soil sample was then collected beneath the capacitor which indicated dioxin. Even though the dioxin was not detected at action levels, further remediation at Building 628 was performed and completed by OHM (OHM 1997).

PCB were found in the sludge and debris samples scraped from the concrete floor under the capacitors in Building 693 (Water Treatment Plant). Remediation of Building 693 was completed by OHM (OHM 1997).

Switches

A total of 18 oil containing switches were located by OHM (OHM 1997). The switches were typically located indoors, usually in the electrical control room of a building. Each switch located was tested by OHM for PCB content. All of the switch gear pots tested negative for PCB and were drained and left in place. Most of the switch gear pots were found in Building 628.

Other Electrical Equipment

Other electrical equipment located and removed by OHM during the site cleanup included electrical panel covers, miscellaneous wiring and insulation assemblies, lighting arrestor units, and mercury switches (OHM 1997). The mercury switches were located in Building 693 (Water Treatment Plant). The mercury switches were removed and properly disposed of by OHM (OHM 1997).

3.1.4 Asbestos Remediation Project

Asbestos is not classified as a hazardous waste, however it is a regulated waste that constituted a major part of the cleanup effort at NTC–B. Presented below is a summary of the asbestos abatement work conducted at NTC–B.

A portion of the NTC-B buildings collapsed prior to the initiation of the building demolition/asbestos abatement project. The presence of the collapsed building materials, including ACM, prompted the initiation of the formal asbestos abatement/building demolition project in order to prevent the uncontrolled release of asbestos into the environment.

In June 1990, the Navy awarded a contract to International Crane to demolish and dispose of 429 buildings/structures, many of which contained asbestos in friable and non-friable forms. The Navy also contracted Versar, Inc. to supervise the building demolition/asbestos abatement work performed by International Crane. International Crane's contract also included the permitting, construction, operation and closure of the Rubble Landfill for the demolition debris including both friable and non-friable asbestos material. Demolition of the buildings started in the fall of 1990 and continued to the Spring of 1991. Friable asbestos was removed from 335 buildings prior to demolition. The remaining buildings were demolished "as is" because of very poor

structural integrity. Over 400,000 cubic yards of demolition debris was placed in the Rubble Landfill. EPA contended that the procedure being used to demolish the buildings was rendering the transite into a friable asbestos. The Navy was ordered to stop work until an acceptable procedure could be established and an FFCA could be put into place to define demolition and cleanup requirements.

On September 1991, the Navy entered into a FFCA with EPA Region III (EPA 1992). This agreement was subsequently amended on 9 November 1992. The main purpose of this agreement was to establish compliance dates for moving demolished building debris to the onsite permitted Rubble Landfill, acceptable procedures for future demolition and transport, and requirement to certify sites clean upon completion of building demolition and site remediation.

After significant discussion with EPA on sampling and cleanup levels, on 1 March 1994, EPA delegated establishment of a cleanup standard and acceptance to the State of Maryland.

Starting in July 1994 MDE and the Navy began a series of site inspections of all building sites to determine cleanliness. After the inspection no visible transite was present at the surface. The site walks ended in July 1995 when EPA decided to intervene and made the determination that a CERCLA approach (Risk Assessment/Mock Construction Scenario) would be used to determine cleanliness. The Mock Construction Scenario was conducted in the hospital area because it was considered a “worst-case” scenario, given the poor structural condition of the buildings, the high building density, and the fact that most buildings were demolished “as in” without friable asbestos being removed. The Mock Construction Scenario was designed to evaluate the potential for asbestos fibers to become airborne under a typical construction scenario. The results of the risk assessment determined that the risk associated with future residential, or other land use are acceptable as compared to EPA's target risk range. On February 1996 EPA and MDE accepted the Final Analysis Report for the Mock Construction Scenario (EPA 1996, MDE 1996).

In July 1996 EPA informed the Navy that the Mock Construction Scenario still didn't address the asbestos National Emissions Standards for Hazardous Air Pollutants (NESHAP) and further action will be required.

On 30 July 1998, the Navy entered into a second amendment to the FFCA in order to remove soil containing transite chips from those demolition sites where buildings with transite were located. The amendment was to supercede all previous amendments and focused on a standard work practice approach to compliance with the asbestos NESHAP. Depths and bounds of soil removal were determined and agreed upon. Soil removal of these depths and bounds as well as EPA certifications were completed in July 1999. This effort has been documented with Quarterly Progress Reports beginning in October 1998. The Final Quarterly Report and Navy certification will be submitted to EPA in October 1999. The Navy is currently awaiting final termination of the FFCA from EPA.

While executing the FFCA, friable asbestos material in the form of TSI was discovered in the Hospital Area and subsequently removed. As a precaution, the Navy excavated another 7,200 tons of soil in this area. However, as a result of this discovery, EPA issued an Administrative

Order to complete additional remediation2 activities of this area. Based on the results, additional removal may be necessary.

3.1.5 Small Arms Ranges Lead Remediation

Evidence of potential adverse environmental impact due to elevated levels of lead were identified in soil in the vicinity of a background sampling location in the Task 2 investigation (EA 1999a). The background location was located adjacent to a former Small Arms Range. A removal action is in progress at this area, Building 707, to reduce lead in soil to acceptable levels. Three other Small Arms Ranges were identified at NTC–B. The ranges are next to each Drill Field and are associated with former Buildings 104, 201, and 404. These three ranges have been sampled for lead and two (Bldg 201 and 404) of the three ranges had concentrations of lead in soil at unacceptable levels. Remediation is in progress at former Buildings 201 and 404.

3.1.6 Ash Disposal Pit Cleanup

Coal ash, probably originating from building heating operations, was located in the "borrow pit" during the landfill project. The removal of the coal ash began in the fall of 1998. The removal process was consistent with MDE total petroleum hydrocarbon (TPH) contamination requirements and a risk assessment was completed in April 1999. The two contaminants of primary concern at the Ash Disposal Pit (this area is also known as the “Ash Pile”) were iron and arsenic. Both the residual ash in the pit as well as the soil under the pit were sampled and tested for these two contaminants. Oral ingestion exposure and dermal exposure were analyzed for iron and arsenic. The conclusion of the risk assessment found that the hazard quotient for iron and arsenic was below one, therefore there is no elevated, non-cancer threat to human health from these contaminants at current levels. Also there are no cancer risks associated with iron and the cancer risk associated with arsenic was shown to be within EPA guidelines for acceptable risk to the potential future residents.

Since both arsenic and iron show no deleterious effects to future residents on the ash disposal site, cleanup of the ash is driven by MDE regulatory levels for TPH in soil, rather than by human health risk considerations.

December 1998 confirmation sampling at the Ash Disposal Pit revealed two samples that were above acceptable MDE cleanup levels. Due to these results more soil was removed from the pit in the spring of 1999. Confirmation sampling results demonstrated that cleanup levels established in the Work Plan have been attained. Closure of this site is pending the OHM October 1999 Closure Report.

3.1.7 Under Ground Storage Tank Removal/Remediation Project

A UST remediation project was conducted by Clean Harbors and Versar, Inc. from 1989 to 1991 (Versar 1991). Clean Harbors and Versar removed and recycled the metal from 203 tanks (1,034,850 gallons of capacity) at 185 locations, excavated contaminated soil (3,100 cubic yards), removed gallons of product, and renovated the excavation sites. The contaminated soil

was processed in an asphalt mix and applied as a base coat of asphalt onto one of the drill fields. Approximately 355,565 gallons of old product and water were tested and recycled. Thirteen monitoring wells were also installed during this project. Currently, all but four of the wells are closed. OHM decommissioned the ground water monitoring wells and 44 UST backfill monitoring wells during the site cleanup (OHM 1997). The four remaining wells include three at the Former Gas Station and one at the Dry Cleaning Plant. The remaining wells are planned to be closed in the fall of 1999.

Six additional USTs were identified and removed by International Crane Company during the building demolition activities and Rubble Landfill construction conducted from June 1990 to October 1996. Under the Job Order Contract (JOC), 23 additional tanks were removed by Beneco Enterprises during 1994. Twenty-four USTs were identified during the borrow pit operation and are in the process of being removed by OHM.

3.1.8 Sewage Treatment Plant (Building 692) Project

The NTC–B STP was abandoned after the Chesapeake Job Corps Center closed on 31 December 1990. NTC–B was the host for the Chesapeake Job Corps from 1979 until 1990. However, there were several treatment units at the STP that contained liquid and solid residue. As a part of the land transfer process, the Navy wished to dispose of this residue at an off-site location such as a Publicly Owned Treatment Works (POTW). In order to approve a disposal method, the Regulatory Authorities required sampling and analysis of the liquid and solid residue in treatment units at the NTC–B STP.

General

The STP at NTC–B is located approximately two miles from the main entrance in the southeast corner of the Activity. The STP contains a grit chamber, two sludge digesters, four clarifiers, three trickling filters, distribution box, recirculation pump station, chlorine contact chamber, and four sludge drying beds. In February 1994, the sludge digesters were emptied and fenced in, and two of the four sludge drying beds were demolished. The remaining treatment units at the STP contained liquid and solid residue.

Characterization

Michael Baker Jr., Inc. (Baker) was contracted by the Navy to provide the necessary sampling and analysis services in support of potential off-site residue disposal (Baker 1996). The primary objective of the sampling and analysis effort at the NTC–B STP was to determine if the liquid and solid residue in each treatment unit could be taken to an approved POTW for disposal. Specific requirements included the following activities:

- Development of a sampling and analysis plan (SAP);
- Development of a health and safety plan (HASP);
- Field sampling at 15 different treatment units that contain residue;

- Analysis of treatment unit residue collected from all sampling locations; and
- Development of a final report describing all project activities, results, and recommendations for disposal.

The Sampling Plan was submitted to the Navy and the Regulatory Authorities on 11 July 1996 and approved on 16 July 1996. The HASP was submitted to the Navy on 11 July 1996 and to the Regulatory Authorities on 16 July 1996. It was approved on 16 July 1996.

Analysis and Results

Pollutant concentrations in the waters, sediments, and soils at the NTC–B STP were compared with regulatory limits, typical sludge concentrations, RBCs, and previous analytical testing results to evaluate and interpret the laboratory data. This analysis was used to determine whether or not the liquid and solid residue at the NTC–B STP is typical of normal sewage sludge and to identify any potential problems associated with residue disposal. To interpret the analytical testing results on water samples at the NTC–B STP, reported concentrations were examined and compared to Toxicity Characteristic Leaching Procedure (TCLP) regulatory limits and Maryland Class I sewage sludge limits.

The water analysis results described above indicated that the supernate residue at the NTC–B STP is generally benign. The results demonstrated that there was no contaminant present in the supernate that may have caused problems with liquid residue disposal. In fact, because of the benign nature of the liquid waste, the State permitted the Navy to discharge the supernate to grade. Permission to discharge to grade was granted in a letter from Mr. Ed Gertler, MDE Industrial Discharge Permits Division, dated 7 November 1996.

Analytical testing results for sediment samples at the NTC–B STP were compared with typical sludge concentrations, Maryland Class I sewage sludge limits, and TCLP limits. These comparisons, which are described below, indicated that high metal concentrations in the sediments might pose several difficulties with sediment residue disposal.

Based on the high metals concentrations that were found during analysis of sediment residue, the Navy contracted Baker to perform additional TCLP metals analyses on sediments from four treatment units: Trickling Filter #2 (Effluent Pipe), Trickling Filter #3 (Effluent Pipe), Clarifier #8, and Clarifier #10. The results of these additional analyses, show that the concentration of lead at Clarifier #8 was the only reported parameter that exceeded the TCLP regulatory limit. By sheer coincidence, a duplicate sample was taken at Clarifier #8 to satisfy Quality Assurance/ Quality Control (QA/QC) requirements for the additional sampling and analysis activities. Analysis of the duplicate sample yielded a lead concentration that fell below the TCLP regulatory limit. Discrepancies between the two reported TCLP lead concentrations are a result of the non-homogeneous mixture of sediments in Clarifier #8. Regardless of the result from the duplicate sample, EPA has indicated that because the TCLP lead concentration on the first sample was above the regulatory limit, sediment residue from Clarifier #8 must be classified as a hazardous waste and must therefore be manifested under Resource Conservation and Recovery Act (RCRA).

Because of the presence of high metal concentrations in sediment residue throughout the NTC-B STP, the only viable option for sediment residue disposal involves treatment at a treatment facility that is willing and able to accept the waste.

Analysis of soil samples was invalidated by the Central Regional Laboratory (CRL) due to a miscommunication regarding selected sampling methods. EPA Region III agreed to collect and analyze additional samples at their expense. This action remains pending.

Demolition

In September 1996, Enviro Serve Inc. was contracted by the Navy to remove residue from the abandoned NTC–B STP, and demolish existing structures.

In Accordance With (IAW) State approval, Enviro Serve discharged the supernate to grade, and pumped the remaining residue into liquid-tight roll offs for further separation. Supernate from the roll offs was transported by BNC Services, Inc. to Aberdeen Advanced Wastewater Treatment Plant in Aberdeen, MD.

Non Regulated, solid residue was transported by BNC Services, Inc. to Modern Landfill in York, Pennsylvania.

Lead-contaminated, solid residue was transported under State Manifest Number PAE8302980 to Republic Environmental Systems in Hatfield, Pennsylvania by themselves.

Every treatment unit was demolished to grade. IAW State Inspection Report of 11 July 1999, the Bainbridge STP was “fully cleaned out” and "offline”.

TABLE 3-1 SUMMARY OF AREAS OF CONCERN NOT COVERED IN EBS TASKS 1 AND 2, RECOMMENDATIONS, ACTIONS TAKEN, AND CURRENT STATUS

AOC No.	AOC Description or Location	Concern	Recommended Action	Basis for Identification as an AOC (a)	Regulatory Program (b)	Actions Taken & Status
7[(c)]	Former Gas Station, Bldg 756A	Open UST case with MDE, likely to be closed.	Conduct required sampling, await notification from MDE.	EPA/MDE Position Paper	MDE Oil Control Program	MDE requested sampling; sampling was conducted under Task 2 (pre-final report July 1999); Results sent to MDE for closure assessment.
9[(c)]	IR Site 1 - Old Base Landfill	Historical sanitary landfill containing municipal wastes, pesticides, building demolition debris.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper	CERCLA/ NCP-Navy IR Program	Task 2 field investigation conducted (pre-final report July 1999); Data to be used to supplement existing monitoring program.
11[(c)]	IR Site 2 - Fire Training Area	Historical releases of petroleum, solvents, etc.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper	CERCLA/ NCP-Navy IR Program	A human health and ecological risk assessment was conducted (pre-final report July 1999); The Navy is in the process of revising the human health and ecological risk assessment.
28[(c)]	PCB Cleanup-Bldg 693 (Water Treatment Plant)	One gas can, one automotive battery, one R-22 canister, six acetylene cylinders, four fire extinguishers, floor stains in machinery room, waste dumpster full of chemical containers; Oil- filled transformer.	Navy to remove containers; Investigate oil-filled transformer.	EPA/MDE Position Paper	TSCA	Containers were removed during the OHM site cleanup; Floor under the oil-filled leaking transformer was remediated in Bldg 693.
38[(c)]	Asbestos Remediation Project (Transite pieces in soil)	Assessment of potential human health risks.	Asbestos materials should be assessed.	FFCA	Clean Air Act	Soil containing asbestos has been remediated; Compliance with asbestos NESHAP and the FFCA; EPA has certified all FFCA required excavation areas.

TABLE 3-1 (Continued)

AOC No.	AOC Description or Location	Concern	Recommended Action	Basis for Identification as an AOC (a)	Regulatory Program (b)	Actions Taken & Status
39[(c)]	PCB Cleanup - Oil-Filled Pole-Mounted Transformers (Bldg 628 Main Transformer Substation)	Potentially oil-filled transformers throughout NTC-B.	Navy to assess presence/absence of oil in pole-mounted transformers; all oil-containing transformers to be properly removed and disposed of.	EPA/MDE Position Paper	TSCA	OHM recovered and removed transformers during the site cleanup; OHM remediated soil under a leaking transformer near Bldg 628.
45	Small Arms Ranges Lead Remediation	High levels of lead were found in one of the background samples (adjacent to a former small arms range).	Investigate other former small arms ranges located at NTC-B; Sample for lead, delineate, and remediate if necessary.			Remedial action is in progress at 3 of the 4 ranges. The range near former Bldg 104 did not require remediation.
46	Ash Disposal Pit Cleanup	Coal Ash discovered during Landfill Project.	Removal of coal ash.			Coal Ash was removed; Risk assessment performed; Confirmation sampling reflects that cleanup goals have been attained; Additional soil was removed; Closure of this site is pending the OHM October 1999 Closure Report.
47	UST Removal/ Remediation Project	Additional USTs identified.	Removal and remediation of additional USTs.		RCRA	USTs identified in Task 1 have been removed and remediated; Additional USTs discovered during the borrow pit operations are pending removal.
48	Sewage Treatment Plant (Bldg 692) Project	Liquid and solid residue in several of the treatment units.	Sampling and analysis of the liquid and solid residue in the treatment units.	EPA/MDE Position Paper	Clean Water Act	The remaining liquid and solid residue was tested and disposed of properly; The STP was demolished; Site is closed; formal closure is pending MDE.

(a) Basis for Identification as an AOC- refers to whether an AOC was identified as part of the EBS review, correspondence from the regulators, was part of an ongoing compliance or remedial program, or by some other means.

TABLE 3-1 (Continued)

(b) Refers to the Regulatory Program under which the AOC is or will be addressed:
CERCLA/NCP- Consistent with CERCLA and the National Contingency Plan (NCP) under the Navy IR Program
RCRA- Resource Conservation and Recovery Act compliance (e.g., UST compliance)
TSCA- Toxic Substances Control Act (e.g., PCB remediation)
EBS AOC- Refers to AOCs not under a formal program, but are being addressed as part of the EBS process to fulfill all actions necessary to protect human health and the environment are taken prior to property transfer.
DOD POLICIES: Refers to DoD policies for Asbestos, Lead Paint, and Radon at BRAC Properties (Memorandum from Office of The Under Secretary of Defense, 31 October 1994)

(c) Also included in Table 2-5.

4. SUMMARY OF AREAS OF CONCERN AND STATUS

The results of Tasks 1 and 2 of the EBS investigation identified the AOCs summarized in Chapter 2, Table 2-5. In addition, other environmental AOCs from Navy compliance and cleanup programs have been identified and are summarized in Chapter 3, Table 3-1. Collectively, all of these AOCs represent all of the areas on NTC–B that may have been impacted by a petroleum or hazardous substance release. In this chapter, all of these AOCs have been summarized in one table and have been categorized based on their current environmental condition using the Environmental Condition of Property categories defined in DoD's Base Realignment and Closure (BRAC) Cleanup Plan (BCP) Guidebook (definitions are given below). Table 4-1 provides this AOC summary. In addition, Figures 4-1 through 4-3 show the locations of the AOCs and identify their current environmental condition using the BCP Guidebook color-coding. The AOC boundaries depicted in the figures are approximate. AOC 38, asbestos, was not depicted on a figure. The boundaries of asbestos in soil are difficult to define, so as to not mislead the reader, this AOC was not presented on a figure.

Property identified as Category 1 is "clean." Property in categories 1, 2, 3, and 4 are transferable by deed, while categories 5, 6, and 7 are not.

The seven DoD BCP Guidebook environmental condition of property categories are defined as follows:

Category 1 (white): Areas where no release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas).

Category 2 (blue): Areas where only release or disposal of petroleum products has occurred.

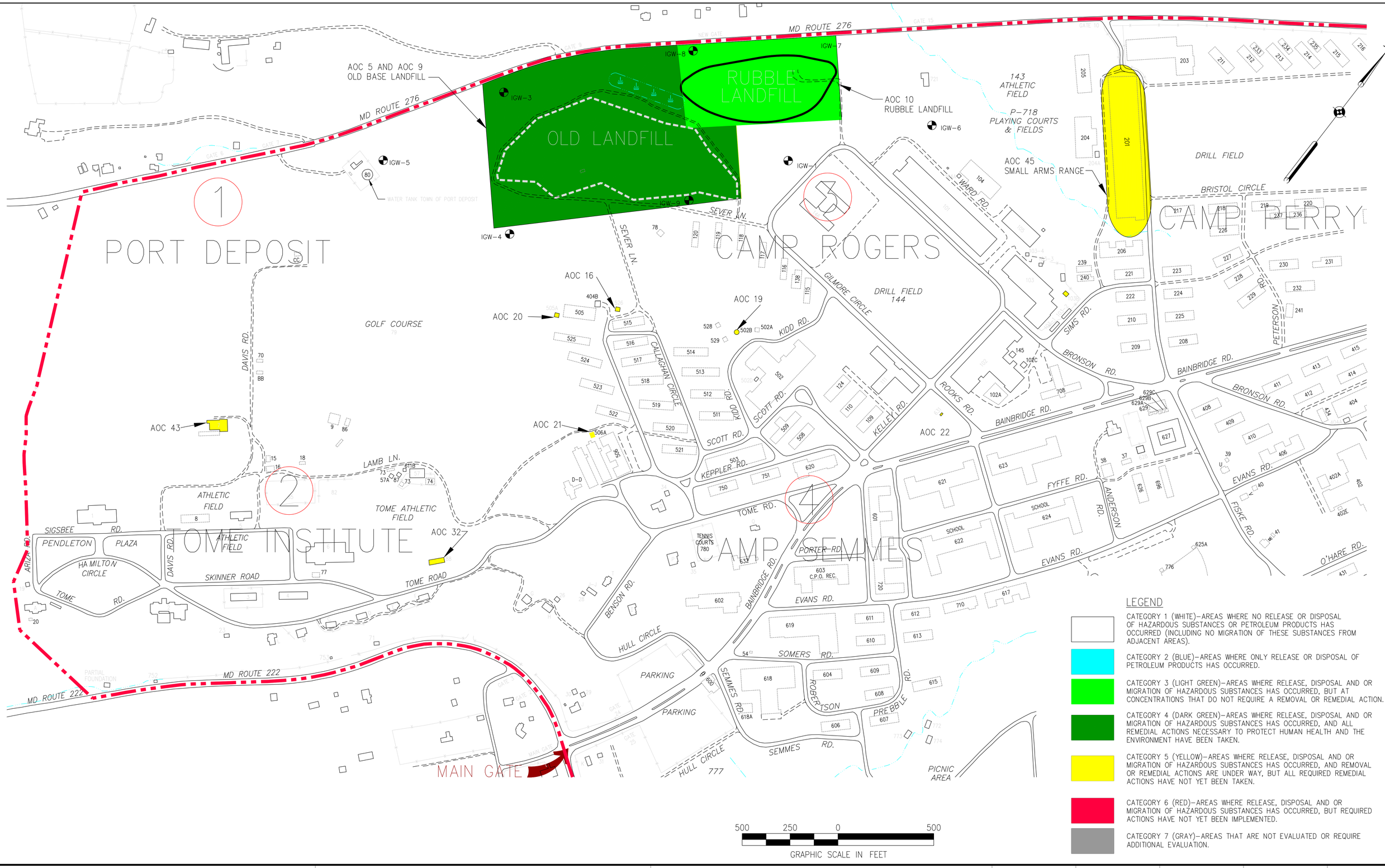
Category 3 (light green): Areas where release, disposal, and/or migration of hazardous substances has occurred, but at concentrations that do not require a removal or remedial response.

Category 4 (dark green): Areas where release, disposal, and/or migration of hazardous substances has occurred, and all removal or remedial actions to protect human health and the environment have been taken.

Category 5 (yellow): Areas where release, disposal, and/or migration of hazardous substances has occurred, and removal or remedial actions are underway, but all required remedial actions have not yet been taken.

Category 6 (red): Areas where release, disposal, and/or migration of hazardous substances has occurred, but required actions have not yet been implemented.

Category 7 (gray): Areas that are not evaluated or require additional evaluation.



LEGEND

CATEGORY 1 (WHITE)–AREAS WHERE NO RELEASE OR DISPOSAL OF HAZARDOUS SUBSTANCES OR PETROLEUM PRODUCTS HAS OCCURRED (INCLUDING NO MIGRATION OF THESE SUBSTANCES FROM ADJACENT AREAS).

CATEGORY 2 (BLUE)–AREAS WHERE ONLY RELEASE OR DISPOSAL OF PETROLEUM PRODUCTS HAS OCCURRED.

CATEGORY 3 (LIGHT GREEN)–AREAS WHERE RELEASE, DISPOSAL AND OR MIGRATION OF HAZARDOUS SUBSTANCES HAS OCCURRED, BUT AT CONCENTRATIONS THAT DO NOT REQUIRE A REMOVAL OR REMEDIAL ACTION.

CATEGORY 4 (DARK GREEN)–AREAS WHERE RELEASE, DISPOSAL AND OR MIGRATION OF HAZARDOUS SUBSTANCES HAS OCCURRED, AND ALL REMEDIAL ACTIONS NECESSARY TO PROTECT HUMAN HEALTH AND THE ENVIRONMENT HAVE BEEN TAKEN.

CATEGORY 5 (YELLOW)–AREAS WHERE RELEASE, DISPOSAL AND OR MIGRATION OF HAZARDOUS SUBSTANCES HAS OCCURRED, AND REMOVAL OR REMEDIAL ACTIONS ARE UNDER WAY, BUT ALL REQUIRED REMEDIAL ACTIONS HAVE NOT YET BEEN TAKEN.

CATEGORY 6 (RED)–AREAS WHERE RELEASE, DISPOSAL AND OR MIGRATION OF HAZARDOUS SUBSTANCES HAS OCCURRED, BUT REQUIRED ACTIONS HAVE NOT YET BEEN IMPLEMENTED.

CATEGORY 7 (GRAY)–AREAS THAT ARE NOT EVALUATED OR REQUIRE ADDITIONAL EVALUATION.

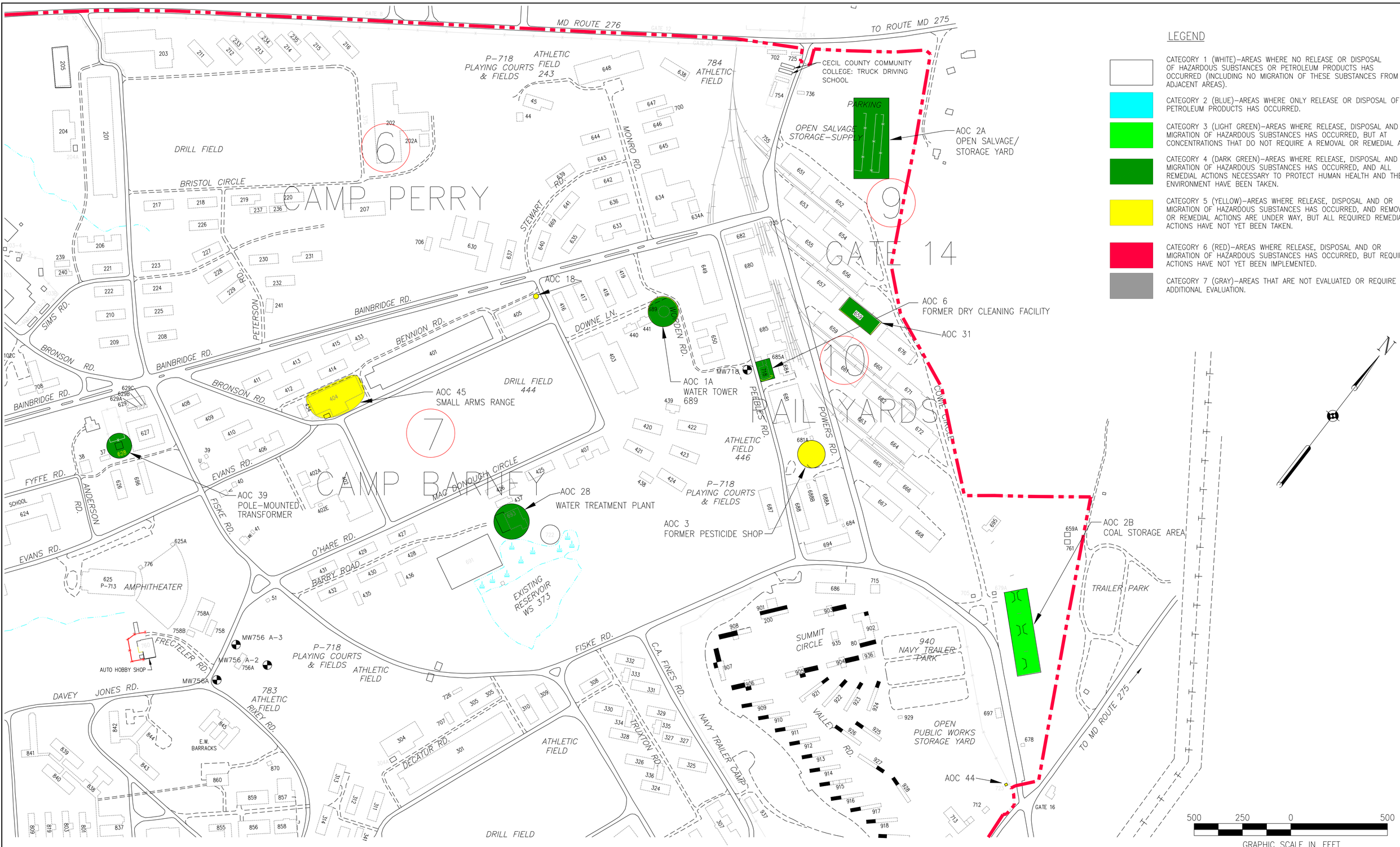
FILE: O:\PROJECTS\29600\59\AREA-1.DWG

EA ENGINEERING, SCIENCE, AND TECHNOLOGY

NAVAL TRAINING CENTER
BAINBRIDGE
PORT DEPOSIT, MARYLAND

AREAS OF CONCERN AT
NAVAL TRAINING CENTER–BAINBRIDGE
(PAGE 1 OF 3)

DESIGNED BY	DRAWN BY	DATE	PROJECT NO.	FILE NAME
TJL	NTB	11-18-99	29600.59	AREA-1
CHECKED BY	PROJECT MGR.	SCALE	DRAWING NO.	FIGURE
JBJ	PJC	AS SHOWN	–	ENCL 2



LEGEND

- CATEGORY 1 (WHITE)–AREAS WHERE NO RELEASE OR DISPOSAL OF HAZARDOUS SUBSTANCES OR PETROLEUM PRODUCTS HAS OCCURRED (INCLUDING NO MIGRATION OF THESE SUBSTANCES FROM ADJACENT AREAS).
- CATEGORY 2 (BLUE)–AREAS WHERE ONLY RELEASE OR DISPOSAL OF PETROLEUM PRODUCTS HAS OCCURRED.
- CATEGORY 3 (LIGHT GREEN)–AREAS WHERE RELEASE, DISPOSAL AND OR MIGRATION OF HAZARDOUS SUBSTANCES HAS OCCURRED, BUT AT CONCENTRATIONS THAT DO NOT REQUIRE A REMOVAL OR REMEDIAL ACTION.
- CATEGORY 4 (DARK GREEN)–AREAS WHERE RELEASE, DISPOSAL AND OR MIGRATION OF HAZARDOUS SUBSTANCES HAS OCCURRED, AND ALL REMEDIAL ACTIONS NECESSARY TO PROTECT HUMAN HEALTH AND THE ENVIRONMENT HAVE BEEN TAKEN.
- CATEGORY 5 (YELLOW)–AREAS WHERE RELEASE, DISPOSAL AND OR MIGRATION OF HAZARDOUS SUBSTANCES HAS OCCURRED, AND REMOVAL OR REMEDIAL ACTIONS ARE UNDER WAY, BUT ALL REQUIRED REMEDIAL ACTIONS HAVE NOT YET BEEN TAKEN.
- CATEGORY 6 (RED)–AREAS WHERE RELEASE, DISPOSAL AND OR MIGRATION OF HAZARDOUS SUBSTANCES HAS OCCURRED, BUT REQUIRED ACTIONS HAVE NOT YET BEEN IMPLEMENTED.
- CATEGORY 7 (GRAY)–AREAS THAT ARE NOT EVALUATED OR REQUIRE ADDITIONAL EVALUATION.

FILE: O:\PROJECTS\29600\59\AREA-2.DWG

EA ENGINEERING, SCIENCE, AND TECHNOLOGY

NAVAL TRAINING CENTER
BAINBRIDGE
PORT DEPOSIT, MARYLAND

AREAS OF CONCERN AT
NAVAL TRAINING CENTER–BAINBRIDGE
(PAGE 2 OF 3)

DESIGNED BY	DRAWN BY	DATE	PROJECT NO.	FILE NAME
TJL	NTB	11–18–99	29600.59	AREA–2
CHECKED BY	PROJECT MGR.	SCALE	DRAWING NO.	FIGURE
JBJ	PJC	AS SHOWN	–	ENCL 2

CAMP SEMMES

CAMP BARNEY

CAMP JAMES

SEWAGE PLANT

HOSPITAL

MANOR HEIGHTS

AOC 15

AOC 24

AOC 33

AOC 12

AOC 13

AOC 11
FIRE TRAINING AREA

AOC 48
SEWAGE TREATMENT
PLANT (692)

AOC 45
SMALL ARMS RANGE

AOC 47
UST REMOVAL
PROJECT

AOC 4
PCB-FORMER
TRANSFORMER
STORAGE YARD

AOC 30
(BLDG 713
AND 714)

AOC 46
ASH DISPOSAL
PIT CLEANUP

AOC 1A
WATER TOWER
1054

WATER TREATMENT PLANT

EXISTING
RESERVOIR
WS 373

AMPHITHEATER

AUTO HOBBY SHOP

P-718
PLAYING COURTS
& FIELDS

783
ATHLETIC
FIELD

877
ATHLETIC
FIELDS

777
ATHLETIC
FIELDS

ATHLETIC
FIELD

DRILL FIELD
344

PICNIC
AREA

PARKING

940
NAVY TRAILER
PARK

OPEN
PUBLIC WORKS
STORAGE YARD

TRAILER PARK

LITTLE LEAGUE
BASEBALL
FIELD
770

DAWN'S CHASE
HORSE FARM
OWNED BY
D.C. WHITAKER

MANOR HEIGHTS
INCORPORATED

BASE PERIMETER FENCE
DOWN ON GROUND

ROAD BLOCKED
BY BARRIER

GATE 19 BLOCKED
BY BARRIER

ROAD BLOCKED BY
EARTH BERM

ROAD BLOCKED BY
GUARD RAIL

TO MD ROUTE 275

MD ROUTE 222

KEPPLER RD.
TOME RD.
PORTER RD.
BAINBRIDGE RD.
BENSON RD.
HULL CIRCLE
EVANS RD.
FYFFE RD.
ANDERSON RD.
FISKE RD.
O'HARE RD.
MAC DONOUGH CIRCLE
BARRY ROAD
SOMERS RD.
SEMMES RD.
ROBERTSON
PREBBLE RD.
PRECTELER RD.
DAVEY JONES RD.
RILEY RD.
DECATUR RD.
DAVIDSON RD.
READ LANE
YOUNG CIRCLE
FLAHERTY RD.
FOOTE CIRCLE
NICHOLS
NICHOLS CIRCLE
MILL CIRCLE
C.A. FINES RD.
TRAXTON RD.
NAVY TRAILER CAMP
SUMMIT CIRCLE
VALLEY RD.
FUNK RD.
BARTON RD.
HENLEY PARKWAY
PRESTON DR.
LAKEY CIRCLE
CRAIGTOWN RD.
GATE 16

2GW-1
2GW-2
2GW-3
2GW-4
2GW-5
2GW-6
MW756 A-1
MW756 A-2
MW756 A-3

LEGEND

CATEGORY 1 (WHITE)–AREAS WHERE NO RELEASE OR DISPOSAL OF HAZARDOUS SUBSTANCES OR PETROLEUM PRODUCTS HAS OCCURRED (INCLUDING NO MIGRATION OF THESE SUBSTANCES FROM ADJACENT AREAS).

CATEGORY 2 (BLUE)–AREAS WHERE ONLY RELEASE OR DISPOSAL OF PETROLEUM PRODUCTS HAS OCCURRED.

CATEGORY 3 (LIGHT GREEN)–AREAS WHERE RELEASE, DISPOSAL AND OR MIGRATION OF HAZARDOUS SUBSTANCES HAS OCCURRED, BUT AT CONCENTRATIONS THAT DO NOT REQUIRE A REMOVAL OR REMEDIAL ACTION.

CATEGORY 4 (DARK GREEN)–AREAS WHERE RELEASE, DISPOSAL AND OR MIGRATION OF HAZARDOUS SUBSTANCES HAS OCCURRED, AND ALL REMEDIAL ACTIONS NECESSARY TO PROTECT HUMAN HEALTH AND THE ENVIRONMENT HAVE BEEN TAKEN.

CATEGORY 5 (YELLOW)–AREAS WHERE RELEASE, DISPOSAL AND OR MIGRATION OF HAZARDOUS SUBSTANCES HAS OCCURRED, AND REMOVAL OR REMEDIAL ACTIONS ARE UNDER WAY, BUT ALL REQUIRED REMEDIAL ACTIONS HAVE NOT YET BEEN TAKEN.

CATEGORY 6 (RED)–AREAS WHERE RELEASE, DISPOSAL AND OR MIGRATION OF HAZARDOUS SUBSTANCES HAS OCCURRED, BUT REQUIRED ACTIONS HAVE NOT YET BEEN IMPLEMENTED.

CATEGORY 7 (GRAY)–AREAS THAT ARE NOT EVALUATED OR REQUIRE ADDITIONAL EVALUATION.

600 300 0 600
GRAPHIC SCALE IN FEET

FILE: Q:\PROJECTS\29600\59\AREA-3.DWG

EA ENGINEERING, SCIENCE, AND TECHNOLOGY

NAVAL TRAINING CENTER
BAINBRIDGE
PORT DEPOSIT, MARYLAND

AREAS OF CONCERN AT
NAVAL TRAINING CENTER–BAINBRIDGE
(PAGE 3 OF 3)

DESIGNED BY	DRAWN BY	DATE	PROJECT NO.	FILE NAME
MGG	NTB	11-18-99	29600.59	AREA-3
CHECKED BY	PROJECT MGR.	SCALE	DRAWING NO.	FIGURE
JBJ	PJC	AS SHOWN	–	ENCL 2

TABLE 4-1 SUMMARY OF ALL AREAS OF CONCERN, RECOMMENDATIONS, ACTIONS TAKEN/STATUS, AND ENVIRONMENTAL CONDITION OF PROPERTY

AOC No.	AOC Description or Location	Concern	Recommended Action	Basis for Identification as an AOC (a)	Regulatory Program (b)	Actions Taken & Status	Environmental Condition of Property Category (c)
1a	Lead Based Paint Areas (Water Towers 689 & 1054)	Potentially elevated lead concentrations in soils.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper	DoD Lead Based Paint Policy	Task 2 field investigation conducted (pre-final report July 1999); Lead levels exceeded screening values; Remediated lead in soil.	Category 4
1b	Lead Based Paint Areas (Officer Housing Area - Tome Institute)	Potentially elevated lead concentrations in soils.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper	DoD Lead Based Paint Policy	Task 2 field investigation conducted (pre-final report July 1999); Navy will disclose presence of lead in soil to potential property owners.	Category 1
1c	Lead Based Paint Areas (Bldg 720)	Potentially elevated lead concentrations in soils.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper	DoD Lead Based Paint Policy	Task 2 field investigation conducted (pre-final report July 1999); Lead levels below screening values.	Category 1
2a	Open Salvage/ Storage Yard	Potentially elevated metal and PAH concentrations at Open Salvage/Storage Yard and Coal Storage Area.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper	EBS AOC	Task 2 field investigation conducted (pre-final report July 1999); Human Health Risk Assessment was completed and PRGs were developed; Navy removal action completed July 1999.	Category 4

TABLE 4-1 (Continued)

AOC No.	AOC Description or Location	Concern	Recommended Action	Basis for Identification as an AOC (a)	Regulatory Program (b)	Actions Taken & Status	Environmental Condition of Property Category (c)
2b	Coal Storage Area	Historical coal storage.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper	EBS AOC	Task 2 field investigation conducted (pre-final report July 1999); Task 2 investigation found no COPC; Site closed - No Further Action.	Category 3
3	Former Pesticide Shop, Bldg 683	Historical storage/mixing of pesticides.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper	EBS AOC	Task 2 field investigation conducted (pre-final report July 1999); Human Health Risk Assessment was completed and PRGs were developed; Navy removal action in progress.	Category 5
4	PCB - Former Transformer Storage Yard	Historical storage/repair of transformers; Potentially elevated PCB concentrations in vicinity of Buildings 713 and 714.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper	TSCA	Task 2 field investigation conducted (pre-final report July 1999); AOC 4 is recommended for No Further Action.	Category 3
5	Old Base Landfill-Asbestos (IR Site 1)	Potentially elevated asbestos concentrations migrating from Old Base Landfill.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper	CERCLA/ NCP-Navy IR Program	Task 2 field investigation conducted (pre-final report July 1999); AOC 5 is recommended for No Further Action.	Category 4 (Based on AOC 9)
6	Former Dry Cleaning Facility, Bldg 718	UST case may be reopened by CERCLA Division of MDE in order to address more stringent detection limits for chlorinated solvents.	Await notification from MDE.	EPA/MDE Position Paper	EBS AOC	MDE requested sampling; sampling was conducted under Task 2 (pre-final report July 1999); Human Health Risk Assessment was completed; No Further Action .	Category 4

TABLE 4-1 (Continued)

AOC No.	AOC Description or Location	Concern	Recommended Action	Basis for Identification as an AOC (a)	Regulatory Program (b)	Actions Taken & Status	Environmental Condition of Property Category (c)
7	Former Gas Station, Bldg 756A	Open UST case with MDE, likely to be closed.	Conduct required sampling, await notification from MDE.	EPA/MDE Position Paper	MDE Oil Control Program	MDE requested sampling; sampling was conducted under Task 2 (pre-final report July 1999); Results sent to MDE for closure assessment.	Category 4
8	Background Sampling	This "AOC" number has been assigned to the sampling performed to assess background levels in site soil.	Perform sampling and analysis as part of EBS Task 2.	EBS Task 2 data need.	Not Applicable	Background Sampling & Analysis performed during EBS Task 2 field effort.	Not Applicable
9	Old Base Landfill - Ground Water (IR Site 1)	Historical sanitary landfill containing municipal wastes, pesticides, building demolition debris.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper	CERCLA/ NCP-Navy IR Program	Task 2 field investigation conducted (pre-final report July 1999); Data to be used to supplement existing monitoring program; Human health and ecological risk assessment was completed (final report April 1999).	Category 4
10	Rubble Landfill	Landfill that received rubble, including asbestos-containing materials resulting from the building demolition project.	Collect ground water samples in Task 2.	EPA/MDE Position Paper	EBS AOC	Task 2 field investigation conducted (pre-final report July 1999); Data to be used to supplement existing monitoring program; Landfill closed in 1996.	Category 3

TABLE 4-1 (Continued)

AOC No.	AOC Description or Location	Concern	Recommended Action	Basis for Identification as an AOC (a)	Regulatory Program (b)	Actions Taken & Status	Environmental Condition of Property Category (c)
11	Fire Training Area (IR Site 2)	Historical releases of petroleum, solvents, etc.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper	CERCLA/ NCP-Navy IR Program	Human health and ecological risk assessment was completed (final report April 1999).	Category 4
12	Bldg M	Potential UST location.	Conduct additional inspection, based on results of inspection may excavate suspect area in Task 2.			No USTs were located in the vicinity of Building M during the OHM site cleanup project.	Category 1
13	Bldg N	Potential UST location.	Conduct additional inspection, based on results of inspection may excavate suspect area in Task 2.			No USTs were located in the vicinity of Building N during the OHM site cleanup project.	Category 1
14	Bldg 760 (Automotive Shop)	Potential UST location; Waste oil containers, stained floors; Empty 55 gal drum.	Conduct additional inspection, based on results of inspection may excavate suspect area in Task 2; Navy to remove containers and drum and clean floors.	EPA/MDE Position Paper		A UST waste oil tank was excavated and petroleum impacted soil was removed by OHM; Containers/drum were removed and stained floor was addressed by OHM.	Category 4
15	Bldg J-J	AST in basement.	Navy to remove.			AST was removed by OHM.	Category 1
16	Bldg 526	Abandoned AST in woods behind building.	Navy to remove.			AST was removed.	Category 1
17	Bldg 529	Former heating oil storage facility.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.			Additional work under Task 2 was found unnecessary; Recent investigation found no environmental concerns.	Category 1

TABLE 4-1 (Continued)

AOC No.	AOC Description or Location	Concern	Recommended Action	Basis for Identification as an AOC (a)	Regulatory Program (b)	Actions Taken & Status	Environmental Condition of Property Category (c)
18	Bldg 404B	Ten empty 55 gal drums, ten empty 5 gal buckets.	Navy to remove containers.	EPA/MDE Position Paper		This task was accomplished during the OHM site cleanup.	Category 1
19	Bldg 502B	One 5 gal bucket, four 1 gal containers.	Navy to remove containers.	EPA/MDE Position Paper		Containers were removed.	Category 1
20	Bldg 505A	Empty 1 gal container of sodium hypochlorite, stained soil behind western side of building.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper		Site inspection of the Navy revealed housekeeping issue, no need to include in Task 2; This task was accomplished during the OHM site cleanup.	Category 1
21	Bldg 506A	Several 5 and 1 gal containers, stained and cracked concrete floor.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper		Site inspection of the Navy revealed housekeeping issue, no need to include in Task 2; Containers were removed.	Category 1
22	Bldg 631	Several 5 gal and 1 gal containers, stained floor, hole in wall at floor level.	Additional activities including the collection and analysis of environmental samples to be negotiated and conducted under Task 2.	EPA/MDE Position Paper		Site inspection of the Navy revealed housekeeping issue, no need to include in Task 2; This task was accomplished during the OHM site cleanup.	Category 1
23	Bldg 529	Two oxygen gas cylinders, one empty 5 gal bucket.	Navy to remove containers.	EPA/MDE Position Paper		Containers were removed.	Category 1
24	Bldg 35	One (1) partially filled 55 gal drum.	Navy to remove containers.	EPA/MDE Position Paper		This task was accomplished during the OHM site cleanup.	Category 1

TABLE 4-1 (Continued)

AOC No.	AOC Description or Location	Concern	Recommended Action	Basis for Identification as an AOC (a)	Regulatory Program (b)	Actions Taken & Status	Environmental Condition of Property Category (c)
25	Bldg 103B	Empty container of paint stripper, stained floors.	Navy to remove containers.	EPA/MDE Position Paper		Stained floors were addressed as a housekeeping issue; This task was accomplished during the OHM site cleanup.	Category 1
26	Bldg 103	Several empty 5 gal containers, one (1) acetylene gas cylinder.	Navy to remove containers.	EPA/MDE Position Paper		This task was accomplished during the OHM site cleanup.	Category 1
27	Bldg 102	One (1) automotive battery, one (1) 5 gal bucket floor sealer, one (1) 35 gal drum with unknown solid contents.	Navy to remove containers.	EPA/MDE Position Paper		This task was accomplished during the OHM site cleanup.	Category 1
28	Bldg 693 (Water Treatment Plant)	One gas can, one automotive battery, one R-22 canister, six acetylene cylinders, four fire extinguishers, floor stains in machinery room, waste dumpster full of chemical containers; Oil-filled transformer.	Navy to remove containers; Investigate oil-filled transformer.	EPA/MDE Position Paper	TSCA	Containers were removed during the OHM site cleanup; Floor under the oil-filled leaking transformer was remediated in Bldg 693.	Category 4
29	Bldg 692E	One (1) empty 5 gal bucket, several empty 1 gal containers, one (1) partially filled gas can, one partially filled 55 gal drum with solid contents.	Navy to remove containers.	EPA/MDE Position Paper		Containers were removed.	Category 1

TABLE 4-1 (Continued)

AOC No.	AOC Description or Location	Concern	Recommended Action	Basis for Identification as an AOC (a)	Regulatory Program (b)	Actions Taken & Status	Environmental Condition of Property Category (c)
30	Bldg 713/714 (Heavy Equipment Shops)	One (1) full 55 gal drum.	Navy to remove containers.	EPA/MDE Position Paper		Containers were removed.	Category 1
31	Bldg 659A	Two partially filled 55 gal drums, one (1) buried 55 gal drum.	Navy to remove containers.	EPA/MDE Position Paper		This task was accomplished during the OHM site cleanup.	Category 1
32	Bldg 88	One (1) empty 55 gal drum.	Navy to remove containers.	EPA/MDE Position Paper		This task was accomplished during the OHM site cleanup.	Category 1
33	Bldg 31	Gas cylinders, one (1) unlabeled full 55 gal drum.	Navy to remove containers.	EPA/MDE Position Paper		This task was accomplished during the OHM site cleanup.	Category 1
34	Bldg 53	Historical storage of pesticides.	Investigate building and remove containers if present.	EPA/MDE Position Paper		This task was accomplished during the OHM site cleanup.	Category 1
35	International Crane (Bldgs 102 & 627)	AST's, abandoned vehicles, abandoned trailers, 55 gal drums on Drill Field, stained surfaces.	Navy to facilitate contractor removal/remediation.	EPA/MDE Position Paper		ASTs, abandoned vehicles and trailers, and drums were removed; Staining was addressed as a housekeeping issue.	Category 1
36	Cecil Comm. College	Chemical containers, stained surfaces.	Navy to facilitate contractor removal/remediation.			Stained surfaces were addressed as a housekeeping issue; Containers were removed.	Category 1
37	Asbestos materials (good condition)	Proper disclosure.	Locations to be disclosed in EBS Report and/or other suitable document to be provided to transferee.		Clean Air Act	Locations to be disclosed in a separate document.	Category 1

TABLE 4-1 (Continued)

AOC No.	AOC Description or Location	Concern	Recommended Action	Basis for Identification as an AOC (a)	Regulatory Program (b)	Actions Taken & Status	Environmental Condition of Property Category (c)
38	Asbestos materials (Transite pieces from demolition activities in soil)	Assessment of potential human health risks.	Asbestos materials should be assessed.	FFCA	Clean Air Act	A disclosure statement on all remaining asbestos containing materials will be made to the new owner; All buildings/structures with asbestos material have been boarded up and signs have been posted.	Category 4
39	Oil-Filled Pole-Mounted Transformers (Bldg 628 Main Transformer Substation)	Potentially oil-filled transformers throughout NTC-B.	Navy to assess presence/absence of oil in pole-mounted transformers; all oil-containing transformers to be properly removed and disposed of.	EPA/MDE Position Paper	TSCA	OHM recovered and removed transformers during the site cleanup; OHM remediated soil under a leaking transformer near Bldg 628.	Category 4
40	Acid Sewage Line	None.	No further action.			No further action.	Category 1
41	Temporary Monitoring Wells	Temporary monitoring wells Throughout NTC-B.	Navy to facilitate proper removal/abandonment of all temporary monitoring wells.	EPA/MDE Position Paper		This task was accomplished during the OHM site cleanup.	Category 1
42	Concrete Circular Structure (Bldg 205)	Unknown.	Position Paper recommended that the Navy should investigate this structure.	EPA/MDE Position Paper		The structure was investigated; No Further Action.	Category 1
43	Bldg 7	Additional ASTs may exist at NTC-B.	OHM to investigate.			OHM removed an AST during the site cleanup.	Category 1
44	Bldg 723	Additional ASTs may exist at NTC-B.	OHM to investigate.			OHM removed an AST during the site cleanup.	Category 1

TABLE 4-1 (Continued)

AOC No.	AOC Description or Location	Concern	Recommended Action	Basis for Identification as an AOC (a)	Regulatory Program (b)	Actions Taken & Status	Environmental Condition of Property Category (c)
45	Small Arms Ranges	High levels of lead were found in one of the background samples (former location of a small arms range).	Investigate other former small arms ranges located at NTC-B; Sample for lead, delineate, and remediate if necessary.			Remedial action is in progress at 3 of the 4 ranges. The range near former Bldg 104 did not require remediation.	Category 5
46	Ash Disposal Pit Cleanup	Coal ash discovered during Landfill Project.	Removal of coal ash.			Coal Ash was removed; Risk assessment performed; Confirmation sampling reflects that cleanup goals have been attained; Additional soil was removed; Closure of this site is pending the OHM October 1999 Closure Report.	Category 4
47	UST Removal/ Remediation Project	Additional USTs identified.	Removal and remediation of additional USTs.		RCRA	USTs identified in Task 1 have been removed and remediated; Additional USTs discovered during the borrow pit operations are pending removal.	Category 2
48	Sewage Treatment Plant (Bldg 692) Project	Liquid and solid residue in several of the treatment units.	Sampling and analysis of the liquid and solid residue in the treatment units.	EPA/MDE Position Paper	Clean Water Act	The remaining liquid and solid residue was tested and properly disposed of; The STP was demolished; Site pending closure by MDE	Category 4

(a) Basis for Identification as an AOC- refers to whether an AOC was identified as part of the EBS review, correspondence from the regulators, was part of an ongoing compliance or remedial program, or by some other means.

TABLE 4-1 (Continued)

(b) Refers to the Regulatory Program under which the AOC is or will be addressed:
CERCLA/NCP- Consistent with CERCLA and the National Contingency Plan (NCP) under the Navy IR Program
RCRA- Resource Conservation and Recovery Act compliance (e.g., UST compliance)
TSCA- Toxic Substances Control Act (e.g., PCB remediation)
EBS AOC- Refers to AOCs not under a formal program, but are being addressed as part of the EBS process to fulfill all actions necessary to protect human health and the environment are taken prior to property transfer.
DOD POLICIES: Refers to DoD policies for Asbestos, Lead Paint, and Radon at BRAC Properties (Memorandum from Office of The Under Secretary of Defense, 31 October 1994)

(c) Environmental Condition of Property Categories, in accordance with DoD's BRAC Cleanup Plan Guidance:
Category 1 (white): Areas where no release or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas).
Category 2 (blue): Areas where only release or disposal of petroleum products has occurred.
Category 3 (light green): Areas where release, disposal, and/or migration of hazardous substances has occurred, but at concentrations that do not require a removal or remedial response.
Category 4 (dark green): Areas where release, disposal, and/or migration of hazardous substances has occurred, and all removal or remedial actions to protect human health and the environment have been taken.
Category 5 (yellow): Areas where release, disposal, and/or migration of hazardous substances has occurred, and removal or remedial actions are underway, but all required remedial actions have not yet been taken.
Category 6 (red): Areas where release, disposal, and/or migration of hazardous substances has occurred, but required actions have not yet been implemented.
Category 7 (gray): Areas that are not evaluated or require additional evaluation.

APPENDIX A

1999 ECOSEARCH REPORT

EcoSearch Environmental Resources, Inc.

9365 Counselors Row Suite 104
Indianapolis, Indiana 46240
ph: (317) 574-8830 fax: (317) 574-8840

EcoSearch Environmental Site Assessment

Type of Report:	Priority Risk Report
Site Location:	***Naval Training Center - Bainbridge*** **Port Deposit, MD 21904**
Date:	July 16, 1999
Report ID Number:	1804-3801
Especially Prepared For:	Mr. Paul Hayden EA Engineering, Science & Technology

Thank you for choosing EcoSearch.

Introduction

We want to thank you for your order requesting the enclosed site assessment.

EcoSearch makes every effort possible to combine the most accurate environmental data available into an understandable and easy-to-use format.

While every attempt has been made to ensure accuracy of the information presented, we cannot guarantee the accuracy of the data from the original sources, nor can we guarantee that no transcription or plotting errors have occurred.

If any concerns arise from your review of the databases in this report, please call the appropriate agency involved. As a service, we have included phone numbers in the database description section of this report to help you in your evaluation.

The enclosed maps present a working approximation of the location of surrounding environmental sites based primarily on available accurate site addresses. These maps should not be used for purposes more correctly handled by surveys.

EcoSearch is driven by its mission to present the most responsive, technically sound, and cost-effective environmental data services available to our customer.

Read Me First

The following suggestions are offered in an attempt to help you in using and understanding this site assessment from EcoSearch:

1. Skim over the entire report to familiarize yourself with its contents and layout.

2. You will notice that the information is presented following this general concept: we begin by giving sections that summarize data and then give detailed information about these summaries as you proceed further into the report.

3. Then refer to the section titled "Statistical Overview". You will need to take a moment to read the column headings and the data below them. Also, as you go down the first column (left side) you will probably need to look back at the preceeding section titled "Database Descriptions". Please pay particular attention to the radius searched as they vary according to the database. These are ASTM standards that we meet and exceed. Your site's datum is the third, shaded column. Also, the next column showing database hits within the first radius is important as it will include data about adjoining properties. The unmappable sites have their own section with a cover page explaining them.

4. The next section titled "Maps" is important as it gives a very clear visual presentation of the site, and which database(s) are at the site itself or within the study radii.

5. The site summary page(s) tells you by map ID# which database is at that location as well as the site's name and distance/direction from your study site. You will notice that the numbering corresponds to the distance from the subject site-- eg. #1 is your site itself or the site closest to it, #2 is further away. This continues until all database hits have been summarized within the largest study radius. Your report may extend further than one mile if you asked us to extend the radii.

6. As you will recall our format goes from summary-type pages to detailed information. Therefore, the next section is "Detailed Data". Here extensive data is given about each database hit. The map ID#, distance, and direction are in the top left corner. Further data follows.

7. The "Unmappable" section was referred to earlier. In this summary you will find those sites. Please read the cover page as it describes unmappable sites and our efforts to minimize and/or eliminate them from all of our site assessments.

8. The last two divisions -- "Radon" and "Glossary/Acronyms" are self-explanatory and often helpful to our customers.

If you would like further help in understanding our reports please call as our intention is to have this report helpful to you.

Database Descriptions -- Federal Databases

NPL

National Priorities List

US Environmental Protection Agency
Office of Solid Waste and Emergency Response
(703) 603-8881

Data Date: January 11, 1999
Release Date: January 11, 1999
Active Date: May 25, 1999

The NPL is a subset of the CERCLIS and lists over 1,150 of the nation's most dangerous sites of uncontrolled or hazardous waste which require cleanup. Also known as the Superfund List, the sites are scored according to the hazardous ranking system.

CERCLA (Active)

Comprehensive Environmental Response, Compensation, and Liability Information System (Active)

US Environmental Protection Agency
Office of Solid Waste and Emergency Response

Data Date: January 11, 1999
Release Date: January 11, 1999
Active Date: May 28, 1999

CERCLIS maintains information on over 15,000 sites nationally identified as hazardous or potentially hazardous which may require action. These sites are currently being investigated or an investigation has been completed regarding the release of hazardous substances. The most serious of this list as ranked by the hazardous ranking system are transferred to the NPL.

CERCLA (NFRAP Archive)

Comprehensive Environmental Response, Compensation, and Liability Information System (NFRAP Archive)

US Environmental Protection Agency
Office of Solid Waste and Emergency Response

Data Date: January 11, 1999
Release Date: January 11, 1999
Active Date: May 28, 1999

For more complete information purposes we include sites which have been reclassified as No Further Remedial Action Planned (NFRAP) by the EPA. This action was taken by the EPA beginning February 1995 as a part of the Brownfields Redevelopment Program. These former CERCLIS sites, also known as the CERCLIS Archive, have been delisted because a lack of significant contamination was found.

RCRA TSD

Resource Conservation and Recovery Information System -- Treatment, Storage, and Disposal Facilities

US Environmental Protection Agency
Office of Solid Waste and Emergency Response
(202) 260-4348

Data Date: January 1, 1999
Release Date: February 2, 1999
Active Date: April 5, 1999

RCRIS contains information on hazardous waste handlers regulated by the US Environmental Protection Agency under the Resource Conservation and Recovery Act (RCRA). It is a national system used to track events and activities which fall under RCRA. The TSD database is a subset of the complete RCRIS file which includes facilities which treat, store, dispose, or incinerate hazardous waste. Additionally, compliance and corrective action (CORRACTS) information is included.

RCRA Generator

Resource Conservation and Recovery Information System -- Large and Small Quantity Generators

US Environmental Protection Agency
Office of Solid Waste and Emergency Response
(202) 260-4610

Data Date: January 1, 1999
Release Date: February 2, 1999
Active Date: April 5, 1999

RCRIS contains information on hazardous waste handlers regulated by the US Environmental Protection Agency under the Resource Conservation and Recovery Act (RCRA). It is a national system used to track events and activities which fall under RCRA. The generators database is a subset of the complete RCRIS file which includes hazardous waste generators which create more than 100kg of hazardous waste per month or meet other requirements of RCRA. We also include RCRA Notifiers, Transporters, and formerly regulated RCRA Sites for more complete hazardous waste information. Additionally, compliance and corrective action information is included.

RAATS

RCRA Administrative Action Tracking System

US Environmental Protection Agency
Office of Enforcement and Compliance Assurance
(202) 564-4104

Data Date: April 14, 1995
Release Date: Not Available
Active Date: April 17, 1995

The RCRA Administrative Action Tracking System contains additional information on RCRA enforcement actions. Data includes the type of action, proposed penalty, and final penalty amount.

CORRACTS

Resource Conservation and Recovery Information System -- Corrective Action Sites

US Environmental Protection Agency
Office of Solid Waste and Emergency Response
(202) 260-4610

Data Date: January 1, 1999
Release Date: February 2, 1999
Active Date: April 5, 1999

The CORRACTS database includes RCRIS (Resource Conservation and Recovery Information System) sites with reported corrective action. This information is also reported in the standard RCRIS detailed data.

ERNS

Emergency Response Notification System

US Environmental Protection Agency
Office of Solid Waste and Emergency Response
(202) 260-2342

Data Date: July 1, 1999
Release Date: July 1, 1999
Active Date: July 8, 1999

ERNS is a national database which contains information on specific notification of releases of oil and hazardous substances into the environment. The system stores data regarding the site of the spill, the material released, and the medium into which it occured. As a joint effort, the Department of Transportation and the Environmental Protection Agency have collaborated to compile more than 365,000 records.

PADS

PCB Activity Database System

US Environmental Protection Agency
Office of Pollution Prevention and Toxics
(202) 260-3992

Data Date: March 26, 1997
Release Date: Not Available
Active Date: July 14, 1998

This database stores information about facilities which handle PCBs and file EPA form 7710-53. It is divided into storage facilities, disposers, generators, and transporters.

TRI

Toxic Release Inventory

US Environmental Protection Agency
Office of Pollution Prevention and Toxics
(202) 260-1531

Data Date: *October 1995*
Release Date: June 1998
Active Date: August 10, 1998

TRI contains information from facilities which manufacture, process, or import any of the over 300 listed toxic chemicals which are released directly into air, water, or land or are transported off-site. The database includes facts on amounts of chemicals stored and emitted from the facility. This database is released on an infrequent basis by the US EPA. EcoSearch includes information from 1987 through the 1995 reporting year.

SSTS

Section Seven Tracking System

US Environmental Protection Agency
Office of Prevention, Pesticides, and Toxic Substances
(202) 564-5008

Data Date: July 31, 1998
Release Date: Not Available
Active Date: August 27, 1998

Formerly FATES, this system tracks the registration of pesticide-producing establishments and tracks the types and amounts of pesticides, active ingredients, and devices which are sold, produced, or distributed annually.

DOCKET

Civil Enforcement Docket

US Environmental Protection Agency
Office of Enforcement
(202) 564-4114

Data Date: September 3, 1998
Release Date: Not Available
Active Date: February 3, 1999

The Civil Enforcement Docket is information on civil and administrative actions filed by the Department of Justice for the US Environmental Protection Agency. This record has been continually updated since 1972 and includes data regarding facility name, dates, laws violated, and penalties assessed.

TSCA

Toxic Substances Control Act Inventory

US Environmental Protection Agency

(202) 554-1404

Data Date: May 14, 1986
Release Date: Not Available

The Toxic Substances Control Act Inventory includes the locations and chemical production information of more than 7000 processors and manufacturers of chemicals. This database is no longer released to the public by the US EPA.

Database Descriptions -- State Databases

SML (HWS)

Maryland State Master List Sites

Maryland Department of the Environment
Waste Management Administration
410-631-3322

Data Date: May 12, 1999
Release Date: May 12, 1999
Active Date: June 16, 1999

The Maryland State Master List is a listing of sites which are considered to be a threat to the public health and welfare by the Maryland Department of the Environment.

SWF

Maryland Solid Waste Facilities

Maryland Department of the Environment
Waste Management Administration
410-631-3318

Data Date: January 30, 1999
Release Date: January 30, 1999
Active Date: June 16, 1999

The Maryland Permitted Solid Waste Facilities Report is a listing of all permitted solid waste landfills and processing facilities operating within the State of Maryland.

LUST

Maryland Leaking Underground Storage Tanks

Maryland Department of the Environment
Underground Storage Tank Program
(410)631-3433

Data Date: August 25, 1998
Release Date: August 25, 1998
Active Date: November 14, 1998

This report contains summary information pertaining to active cases of cleanup activities at facilties which have had either a hazardous materials spill or a leaking underground storage tank.

UST

Maryland Underground Storage Tank List

Maryland Department of the Environment
Underground Storage Tank Program
(410) 631-3443

Data Date: December 5, 1996
Release Date: December 5, 1996
Active Date: June 23, 1998

The Maryland UST Report is a listing of all registered underground storage tanks located within the State of Maryland. This listing is currently available only in an historical paper format. The State expects to release an updated version of this database in 1999.

EcoSearch Statistical Overview

Property Information

Naval Training Center - Bainbridge
Port Deposit, MD 21904

Latitude: 39.611908 N Longitude: 76.094074 W

Search Parameters

Report: Priority Risk Report
Radii: ASTM*
Zip Code(s): 21904
City: Port Deposit
County: Cecil

FEDERAL DATABASES	Radius (miles)	Mappable Sites						Unmappable Sites		
		Total	Site	Area Vicinity**	within 1/4mi	0.25 - 0.50mi	0.50 - 1.00mi	Zip Code	City	County
NPL	1.000	0	0	0	0	0	0	0	0	0
CERCLA (Active)	1.000	1	0	1	0	0	0	0	0	0
CERCLA (NFRAP Archive)	1.000	1	0	1	0	0	0	0	0	0
RCRA TSD	1.000	0	0	0	0	0	0	0	0	0
RCRA Generator	0.250	1	0	1	0	-	-	0	0	0
CORRACTS	1.000	0	0	0	0	0	0	0	0	0
ERNS	0.250	2	0	2	0	-	-	-	-	-
PADS	1.000	0	0	0	0	0	0	0	-	-
TRI	0.500	0	0	0	0	0	-	0	0	0
SSTS	1.000	0	0	0	0	0	0	0	0	0
DOCKET	1.000	2	0	2	0	0	0	0	0	0
TSCA	1.000	0	0	0	0	0	0	0	-	-

STATE DATABASES	Radius (miles)	Mappable Sites						Unmappable Sites		
		Total	Site	Area Vicinity**	within 1/4mi	0.25 - 0.50mi	0.50 - 1.00mi	Zip Code	City	County
SML (HWS)	1.000	2	0	2	0	0	0	0	0	0
SWF	1.000	0	0	0	0	0	0	0	0	0
LUST	0.500	4	0	4	0	0	-	0	0	0
UST	0.250	9	0	9	0	-	-	1	0	0

MANUAL GEOCODING:^ For this city/township, **17** sites were manually plotted by EcoSearch.

* This database search and study radii meets or exceeds the ASTM (American Society of Testing and Materials) standards for a government records review.

** Area Vicinity indicates that Environmental Area Records were found near your study site. These records detail contamination or other environmental conditions in a wide area which cannot be placed to a single point or more precisely plotted. More research is necessary to determine the possible environmental impact of these Area Records to your study site.

^ Manual Geocoding: Plotting environmental site data using paper maps and phone calls to properly place the information on the map.

Accurate street addresses are required for records to be found at the study property.

Mappable Sites are environmental sites which were located and appear on the enclosed EcoSearch Map, Site Summary, and Detailed Data sections of the report. These sites are summarized based on proximity to the study site.

Unmappable Sites are governmental records with incomplete or inaccurate address information. These sites could not be located on the street map, but have been searched by the Zip Codes, Cities, and County specified in the search parameters. Further investigation of these sites and their relationship to your study site is necessary.

Site Summary

Map ID#	Database / Agency ID#	Site Name, Address, and County	Distance/Direction
1	UST Maryland Underground Storage Tank 3005806	BATTLE SWAMP MARKET 560 CRAIGTOWN RD PORT DEPOSIT, MD 21904-1824 CECIL	0.00000 mi -
2	UST Maryland Underground Storage Tank 3005794	LOGAN'S WHARF 160 S MAIN ST PORT DEPOSIT, MD 21904-1728 CECIL	0.01000 mi -
3	UST Maryland Underground Storage Tank 6004597	PLEASANT VIEW BAPTIST CHURCH 7 PLEASANTVIEW CHURCH RD PORT DEPOSIT, MD 21904-1813 CECIL	0.02000 mi - **Manually Geocoded***
4	UST Maryland Underground Storage Tank 6004637	BAINBRIDGE ELEMENTARY 41 PRESTON DR PORT DEPOSIT, MD 21904-1800 CECIL	0.04500 mi - **Manually Geocoded***
5	UST Maryland Underground Storage Tank 6004560	HRABEL, PAUL AND RAY 2 N MAIN ST PORT DEPOSIT, MD 21904-1210 CECIL	0.05000 mi -
6	UST Maryland Underground Storage Tank 6004666	WATER WITCH FIRE CO. INC. 15 N MAIN ST PORT DEPOSIT, MD 21904-1209 CECIL	0.06500 mi -
7	UST Maryland Underground Storage Tank 6004571	CRAIGTOWN MARKET 712 CRAIGTOWN RD PORT DEPOSIT, MD 21904-1828 CECIL	0.09500 mi -
8	UST Maryland Underground Storage Tank 6004558	CECIL SAND & GRAVEL 340 PERRYLAWN DR PORT DEPOSIT, MD 21904-2051 CECIL	0.21000 mi - **Manually Geocoded***
9	DOCKET Civil Enforcement Docket 03-90-0128A	MT ARARAT FARMS 155 MT ARGRAT FARM RD PORT DEPOSIT, MD 21904	0.51000 mi -
10A	SML (HWS) Maryland State Master List Site MD #455	PRINCIPIO RD 551 PRINCIPIO RD PORT DEPOSIT, MD 21904-2025 CECIL	0.70000 mi -
10B	CERCLA CERCLA Site (Delisted NFRAP Site) MDD985417708	PRINCIPIO ROAD 551 PRINCIPIO RD PORT DEPOSIT, MD 21904-2025 CECIL	0.70000 mi -
11A	LUST Maryland Leaking Underground Storage Tank 90-1550CE	BAINBRIDGE NTC BLDG 756A , MD CECIL	0.00000 mi - **Area Manually Plotted***
11B	LUST Maryland Leaking Underground Storage Tank 90-1437CE	BAINBRIDGE NTC BLDG 718 , MD CECIL	0.00000 mi - **Area Manually Plotted***
11C	LUST Maryland Leaking Underground Storage Tank 90-1643CE	BAINBRIDGE NTC BLDG 683 , MD CECIL	0.00000 mi - **Area Manually Plotted***

Site Summary

Map ID#	Database / Agency ID#	Site Name, Address, and County	Distance/Direction
11D	LUST Maryland Leaking Underground Storage Tank 90-1644CE	BAINBRIDGE NTC BLDG 688B , MD CECIL	0.00000 mi - **Area Manually Plotted*****
11E	UST Maryland Underground Storage Tank 3005812	CHIEF, NAVAL TECHNICAL TRAINING DETACHMENT, BASE CLOSURE FORCE PORT DEPOSIT, MD 21901 CECIL	0.00000 mi - **Area Manually Plotted*****
11F	SML (HWS) Maryland State Master List Site MD #430	NAVAL TRAINING CENTER BAINBRIDGE US HWY 222 BAINBRIDGE, MD 21904 CECIL	0.00000 mi - **Area Manually Plotted*****
11G	DOCKET Civil Enforcement Docket 03-91-0474C	BAINBRIDGE NAVAL FACILITY CNTT DETACHMENT BASE CLOSURE PORT DEPOSIT, MD 21904	0.00000 mi - **Area Manually Plotted*****
11H	ERNS Emergency Response Notification System 216479	BAINBRIDGE NAVAL TRAINING CTR. PORT DEPOSIT, MD CECIL	0.00000 mi - **Area Manually Plotted*****
11I	ERNS Emergency Response Notification System 235600	NAVY TRAINING STATION RT. 222 PORT DEPOSIT, MD CECIL	0.00000 mi - **Area Manually Plotted*****
11J	RCRA Generator RCRA Small Quantity Generator MDD985397256	CNTT DETACHMENT BASE CLOSURE FORCE US RT 222 BAINBRIDGE, MD 21904 CECIL	0.00000 mi - **Area Manually Plotted*****
11K	CERCLA CERCLA Site MDD985397256	NAVAL TRAINING CENTER BAINBRIDGE U.S. HIGHWAY 222 BAINBRIDGE, MD 21904 CECIL	0.00000 mi - **Area Manually Plotted*****

* -- Manually Geocoded: Site plotted or corrected using paper maps, phone calls, and other resources to properly place the site on the map.

** -- Agency Provided Lat/Long: Site plotted using the latitude and longitude given by the federal or state government agency.

*** -- Area Manually Plotted: Area manually drawn using digital and paper maps.

Detailed Data

The following pages contain the detailed data concerning the sites plotted on the map and included in the site summary.

Please Note: Pages are not included for databases not found within the search radii.

These pages are arranged as follows:

CERCLA Data

Delisted CERCLA Data

RCRA TSD and Generators Data

ERNS Data

DOCKET Data

Maryland SML Data

Maryland LUST Data

Maryland UST Data

CERCLA Data

Comprehensive Environmental Response, Compensation, and Liability Act Sites

Map ID#: 11K
Distance (mi): 0.000000
Direction: -
EPA ID#: MDD985397256
CERCLIS Site ID#: 0304605
Status: This site is currently under investigation by the federal government to assess the extent of further action

Facility Name: NAVAL TRAINING CENTER BAINBRIDGE
Address: U.S. HIGHWAY 222
City, State, Zip: BAINBRIDGE, MD 21904
County: CECIL

Federal Facility Indicator: Federal Facility
Ownership Indicator: Federally Owned
Comments: NTC BAINBRIDGE (NTCB) COMPRISES 1132 ACRES LOCATED ON U.S. HIGHWAY 222 NEAR THE SUSQUEHANNA RIVER IN NORTHEAST MARYLAND. NTCB IS BORDERED BY THE RIVER TO THE SOUTH WEST THE TOWN OF PORT DEPOSIT TO THE SOUTH & RURAL AREA TO THE EAST & NORTH.NTC BAINB RIDGE COMPRISES 1132 ACRES LOCATED ON U.S. HIGHWAY 222 NEAR THE SUSQUEHANNA RIVER IN NORTHEAST MARYLAND. THE CENTER IS BORDERED BY THE RIVER TO THE SOUTH WEST THE TOWN OF PORT DEPOSIT TO THE SOUTH & RURAL AREA TO THE CAST & NORTH.
NPL Status: Not on the NPL
RCRIS Facility Indicator: Not Reported

Event	Date Started	Date Completed
DISCOVERY	Not Reported	1991-12-03
LABORATORY SUPPORT	1998-10-01	Not Reported
FF RI/FS	1990-09-30	Not Reported
FF RI/FS	1990-09-30	Not Reported

CERCLA Archive Data

Delisted Comprehensive Environmental Response, Compensation, and Liability Act Sites (Archive Sites)

Map ID#: 10B
Distance (mi): 0.700000
Direction: -

EPA ID#: MDD985417708
CERCLIS Site ID#: 0304765
Status: This site has been delisted from CERCLIS
No Further Remedial Action Planned

Facility Name: PRINCIPIO ROAD
Address: 551 PRINCIPIO ROAD
City, State, Zip: CRAIGTOWN, MD 21904
County: CECIL

Federal Facility Indicator: Not a Federal Facility
Ownership Indicator: Unknown
Comments: THE SITE IS AN OLD GRAVEL PIT DUMP BETWEEN PRINCIPIO RD AND CRAIGTOWN RD. OFF OF JACKSON PARK RD.

NPL Status: Not on the NPL
RCRIS Facility Indicator: Not Reported

Event	Date Started	Date Completed
DISCOVERY	Not Reported	1992-10-27
PRELIMINARY ASSESSMENT	Not Reported	1994-06-29

RCRA TSD and Generators Data

Facility and Compliance Information

Map ID#: 11J
Distance (mi): 0.000000
Direction: -
EPA ID#: MDD985397256
Status: Small Quantity Generator

Land Type: Federal Land

Name: CNIT DETACHMENT BASE CLOSURE FORCE
Address: US RT 222
City, State, Zip: BAINBRIDGE MD 21904

SIC Code:
Contact Name: FRANK ZEPKA
Contact Phone: 202-685-3276

RCRA Evaluation / Violation / Enforcement Data

No Compliance Information Reported

RAATS (RCRA Administrative Action Tracking System) Data

No RAATS Information Reported for this Site

RCRA Corrective Action Data (CORRACTS) Instrument and Event Data

No Corrective Action Instrument Information for this Site

RCRA Wastes and Waste Code Information previously reported by EcoSearch have been removed from the RCRIS database by the USEPA.

ERNS Data

Emergency Response Notification System Data

Map ID#: 11H Distance (mi): 0.000000
Direction: -

ID #: 216479
Location: BAINBRIDGE NAVAL TRAINING CTR.
City, State, Zip: PORT DEPOSIT, MD

Time Released: 4/9/91 00:00 Deaths: 0 Injuries: 0 Evacuations: 0 Property Damage: 0.00

Medium Affected: Land
Name of Affected Medium: NONE

Discharger Information (if reported):

Cause of Release: Operator Error
Additional Cause: Not Reported

BAINBRIDGE NAVAL TRAINING CTR.
RT. 222
PORT DEPOSIT MD

Source: Not Reported
Transportation Mode: Fixed Facility

Release Description: NAVAL FACILITY IMPROPER REMOVAL OF ASBESTOS; DEMOLISHING BARRACKS FOR SALE OF PROPERT Y.

Action Description: EPA-PHILA/ANNAPOLIS ASBESTOS INSPECTORS O/S; CONTRACTOR "INT'L CRANE" HIRED *

Misc. Information: * BY NAVY. PIPE INSULATION, SHINGLES, CONCRETE; SEVERAL HUNDRED BAGS OF ASBESTOS IN OPEN; BAGS BROKEN APART. REMOVAL/DEMOLITION INADE QUATE !

Material(s) Spilled:	Quantity	Units	Quan in Water	Units in Water	Pounds
ASBESTOS		UNK			

Map ID#: 11I Distance (mi): 0.000000
Direction: -

ID #: 235600
Location: NAVY TRAINING STATION RT. 222
City, State, Zip: PORT DEPOSIT, MD

Time Released: 10/19/9100:00 Deaths: 0 Injuries: 0 Evacuations: 0 Property Damage: 0.00

Medium Affected: Land
Name of Affected Medium: SOIL AND ASPHALT

Discharger Information (if reported):

Cause of Release: Not Reported
Additional Cause: Not Reported

US NAVY
CMPT DETACHMENT
PORT DEPOSIT MD 21904

Source: Not Reported
Transportation Mode: Fixed Facility

Release Description: TRANSFORMERS / VANDALISM

Action Description: NONE

Misc. Information:

Material(s) Spilled:	Quantity	Units	Quan in Water	Units in Water	Pounds
OIL, MISC: TRANSFORMER	270.00	GAL		NON	1,998.00

DOCKET Data

Civil Enforcement Docket

Map ID#: 9 Distance (mi): 0.510000
Direction: -

Docket Number: 03-90-0128A Case Name: BROWN, FRANK D., D/B/A MT. ARA
Federal Penalty Assessed: $9,000
Cost Recovery Charged: Case Result:

Date Filed: 02/21/90
Date Concluded: 09/07/93

Law Reported Violated	Section	Violation Type	Pollutant Type
Toxic Substances Control Act	16	Polychlorinated biphenyl	

Subject Facilities / EPA ID# / Address / City, State, and Zip

MDD022651053 / MT ARARAT FARMS / 155 MT ARGRAT FARM RD / PORT DEPOSIT, MD 21904

Subject Defendant(s)

BROWN, FRANK D., D/B/A MT ARARAT FARMS

Map ID#: 11G Distance (mi): 0.000000
Direction: -

Docket Number: 03-91-0474C Case Name: INTERNATIONAL CRANE CO
Federal Penalty Assessed: $25,000
Cost Recovery Charged: Case Result:

Date Filed: 06/01/92
Date Concluded: 06/29/93

Law Reported Violated	Section	Violation Type	Pollutant Type
Clean Air Act	112	National emission standard for hazardous air pollutant	

Subject Facilities / EPA ID# / Address / City, State, and Zip

MD8170022562 / BAINBRIDGE NAVAL FACILITY / CNTT DETACHMENT BASE CLOSURE / PORT DEPOSIT, MD 21904

Subject Defendant(s)

INTERNATIONAL CRANE COMPANY

Maryland SML Data

Maryland State Master List Data

Map ID#:		Distance (mi):	0.70000		
		Direction:	-	Name:	PRINCIPIO RD
				Address:	551 PRINCIPIO RD
Agency ID:	MD #455			City, State, Zip:	CRAIGTOWN, MD 21904
				County:	CECIL
				Alias:	NONE
Type of Site:	No Further Remedial Action Planned				

Map ID#:		Distance (mi):	0.00000		
		Direction:	-	Name:	NAVAL TRAINING CENTER BAINBRIDGE
				Address:	US HWY 222
Agency ID:	MD #430			City, State, Zip:	BAINBRIDGE, MD 21904
				County:	CECIL
				Alias:	NONE
Type of Site:	Under Investigation				

Maryland LUST Data

Maryland Leaking Underground Storage Tank Data

Map ID#:	11A	Distance (mi):	0.00000	Name:	BAINBRIDGE NTC
		Direction:	-	Address:	BLDG 756A
Agency ID:	90-1550CE			City, State, Zip:	City Not Reported, MD
				County:	CECIL
Recovery:	MONITORING				
Closure Status:	OPEN				

Map ID#:	11B	Distance (mi):	0.00000	Name:	BAINBRIDGE NTC
		Direction:	-	Address:	BLDG 718
Agency ID:	90-1437CE			City, State, Zip:	City Not Reported, MD
				County:	CECIL
Recovery:	MONITORING				
Closure Status:	OPEN				

Map ID#:	11C	Distance (mi):	0.00000	Name:	BAINBRIDGE NTC
		Direction:	-	Address:	BLDG 683
Agency ID:	90-1643CE			City, State, Zip:	City Not Reported, MD
				County:	CECIL
Recovery:	MONITORING				
Closure Status:	CLOSE				

Map ID#:	11D	Distance (mi):	0.00000	Name:	BAINBRIDGE NTC
		Direction:	-	Address:	BLDG 688B
Agency ID:	90-1644CE			City, State, Zip:	City Not Reported, MD
				County:	CECIL
Recovery:	MONITORING				
Closure Status:	CLOSE				

Maryland UST Data

Maryland Registered Underground Storage Tank Data

Map ID#: 1 Distance (mi): 0.00000
Direction: -
Agency ID: 3005806
Name: BATTLE SWAMP MARKET
Address: 560 CRAIGTOWN ROAD
City, State, Zip: PORT DEPOSIT, MD 21904

TankID#	Tank Status	Substance	Capacity (gal)	Age
001	Removed	GASOLINE/G	1,000.00	0.00
002	Removed	GASOLINE/G	1,000.00	0.00
003	Removed	GASOLINE/G	1,000.00	0.00
004	Removed	GASOLINE/G	4,000.00	0.00

Map ID#: 2 Distance (mi): 0.01000
Direction: -
Agency ID: 3005794
Name: LOGAN'S WHARF
Address: 160 S. MAIN STREET
City, State, Zip: PORT DEPOSIT, MD 21904

TankID#	Tank Status	Substance	Capacity (gal)	Age
001	Removed	GASOLINE/G	550.00	35.00

Map ID#: 3 Distance (mi): 0.02000
Direction: -
Agency ID: 6004597
Name: PLEASANT VIEW BAPTIST CHURCH
Address: 7 PLEASANT VIEW CHURCH ROAD
City, State, Zip: PORT DEPOSIT, MD 21904

TankID#	Tank Status	Substance	Capacity (gal)	Age
001	Current	HEATING OI	2,000.00	16.00
002	Permanently Out of Service		0.00	0.00

Map ID#: 4 Distance (mi): 0.04500
Direction: -
Agency ID: 6004637
Name: BAINBRIDGE ELEMENTARY
Address: 41 PRESTON DRIVE
City, State, Zip: PORT DEPOSIT, MD 21904

TankID#	Tank Status	Substance	Capacity (gal)	Age
001	Removed	HEATING OI	6,000.00	41.00
002	Current	HEATING OI	10,000.00	3.00

Map ID#: 5 Distance (mi): 0.05000
Direction: -
Agency ID: 6004560
Name: HRABEL, PAUL AND RAY
Address: 2 N. MAIN STREET
City, State, Zip: PORT DEPOSIT, MD 21901

TankID#	Tank Status	Substance	Capacity (gal)	Age
001	Current	HEATING OI	300.00	26.00

Map ID#: 6 Distance (mi): 0.06500
Direction: -
Agency ID: 6004666
Name: WATER WITCH FIRE CO. INC.
Address: 15 N MAIN STREET
City, State, Zip: PORT DEPOSIT, MD 21904

TankID#	Tank Status	Substance	Capacity (gal)	Age
001	Permanently Out of Service	GASOLINE/G	550.00	0.00
002	Permanently Out of Service	DIESEL	1,000.00	0.00

Maryland UST Data

Maryland Registered Underground Storage Tank Data

Map ID#: 7 Distance (mi): 0.09500
Direction: -
Agency ID: 6004571
Name: CRAIGTOWN MARKET
Address: 712 CRAIGTOWN ROAD
City, State, Zip: PORT DEPOSIT, MD 21904

TankID#	Tank Status	Substance	Capacity (gal)	Age
001	Current	GASOLINE/G	6,000.00	7.00
002	Current	GASOLINE/G	6,000.00	7.00
003	Current	GASOLINE/G	6,000.00	7.00
004	Current	KEROSENE	1,000.00	7.00

Map ID#: 8 Distance (mi): 0.21000
Direction: -
Agency ID: 6004558
Name: CECIL SAND & GRAVEL
Address: 340 PERRY LAWN DRIVE
City, State, Zip: PORT DEPOSIT, MD 21901

TankID#	Tank Status	Substance	Capacity (gal)	Age
001	Current	DIESEL	10,000.00	11.00
002	Current	GASOLINE/G	1,000.00	14.00

Map ID#: 11E Distance (mi): 0.00000
Direction: -
Agency ID: 3005812
Name: CHIEF, NAVAL TECHNICAL TRAINING
Address: DETACHMENT, BASE CLOSURE FORCE
City, State, Zip: PORT DEPOSIT, MD 21901

TankID#	Tank Status	Substance	Capacity (gal)	Age
001	Temporarily Out of Service	GASOLINE/G	10,500.00	31.00
002	Temporarily Out of Service	GASOLINE/G	10,500.00	31.00
003	Temporarily Out of Service	DIESEL	1,000.00	45.00
004	Temporarily Out of Service	GASOLINE/G	1,500.00	45.00
005	Temporarily Out of Service	GASOLINE/G	1,500.00	45.00
006	Temporarily Out of Service	GASOLINE/G	20,000.00	45.00
007	Temporarily Out of Service	GASOLINE/G	20,000.00	45.00

Unmappable Sites

A limitation of many records of governmental databases is incomplete or incorrect address information. Without proper addresses, it is more difficult to locate and map these sites.

Instead of leaving these potentially important sites out of the EcoSearch report, we implement a painstaking manual geocoding strategy aimed at plotting these unmappable sites by looking at zip codes, city names, and county names identified with the radius around your study site. The zip codes, cities, and counties searched are identified on the EcoSearch Statistical Overview page.

Our sophisticated mapping software, enhanced TIGER street maps, and address correction database processing methods find and plot most environmental sites. We then perform manual geocoding, plotting those sites the computer fails to find using a variety of resources. These include using our in-house collection of paper maps, directories, cross-referencing database information, and calling post offices, local government, or the sites themselves to accurately locate environmental records. We also correct obvious TIGER street map errors and omissions.

This effort at manual geocoding results in a short or non-existant orphan/unmappable list and increases accuracy and reliability of the data in our reports. We have elected not to computerize this part of our report due to the importance of presenting all data as completely and accurately as humanly possible. When this function is computerized it is impossible to produce a report as accurate as one where manual geocoding has taken place.

The limited number of sites which could not be reasonably found through our geocoding strategy are presented in this section for further review to assess their impact on your study site.

After the summary unmappable site information, detailed data follows.

Unmappable Sites

Database	Agency ID#	Site Name and Address	County
UST Maryland Underground Storage Tank	3005615	WILEY MANUFACTURING FERRY ST PORT DEPOSIT, MD 21904	CECIL

Maryland UST Data

Maryland Registered Underground Storage Tank Data

Map ID#: **1UN** Distance (mi): 0.00000
Direction:
Agency ID: 3005615
Name: WILEY MANUFACTURING
Address: FERRY ST
City, State, Zip: PORT DEPOSIT, MD 21904

TankID#	Tank Status	Substance	Capacity (gal)	Age
001	Removed	HEATING OI	4,000.00	16.00
002	Permanently Out of Service	HEATING OI	6,000.00	35.00
003	Current	HEATING OI	1,000.00	15.00
004	Removed	GASOLINE/G	600.00	35.00
005	Removed	HEATING OI	550.00	35.00

EPA Residential Radon Survey for Maryland

County	Sample Size	Homes over 4pCi/L		Homes over 20pCi/L	
		Number	Percentage	Number	Percentage
Allegany	505	143	28.32%	24	4.75%
Anne Arundel	3,890	883	22.70%	79	2.03%
Baltimore	4,410	1,488	33.74%	173	3.92%
Baltimore City	1,587	210	13.23%	22	0.00%
Calvert	911	432	47.42%	65	7.14%
Caroline	92	2	2.17%	0	0.00%
Carroll	3,819	2,576	67.45%	856	22.41%
Cecil	355	63	17.75%	2	0.56%
Charles	1,388	144	10.37%	15	1.08%
Dorchester	64	2	3.13%	0	0.00%
Frederick	3,157	1,763	55.84%	418	13.24%
Garrett	301	104	34.55%	19	6.31%
Harford	1,124	402	35.77%	48	4.27%
Howard	6,477	3,141	48.49%	368	5.68%
Kent	75	5	6.67%	0	0.00%
Montgomery	32,365	10,772	33.28%	992	3.07%
Prince Georges	10,409	1,651	15.86%	114	1.10%
Queen Annes	139	9	6.47%	0	0.00%
Somerset	47	3	6.38%	0	0.00%
St Marys	592	82	13.85%	4	0.68%
Talbot	162	5	3.09%	0	0.00%
Washington	1,341	959	71.51%	168	12.53%
Wicomico	146	1	0.68%	0	0.00%
Worcester	98	3	3.06%	0	0.00%

SOURCE: US EPA Maryland Radon Report: April 1993

This EPA/State survey was conducted in Maryland prior to April 1993. 73,454 homes were tested with short-term (2-7 day) charcoal canisters placed in the lowest livable area of the home. These tests determine the radon concentration, measured in pCi/L (picocuries per liter). The average radon concentration measurement in the U.S. is between 1 and 2 pCi/L. The EPA has established the guideline of 4 pCi/L as an "elevated" indoor radon level.

NOTE: The sample size in each county may not be sufficient to show statistical significance. This information is NOT intended to determine if a property in a given county should be tested for radon. If or when radon is a concern, all properties should be tested regardless of the county statistics.

Environmental Glossary

Acid
rge class of substances having a pH less
seven. An acid waste is considered hazardous when the pH is 2.0 or less.

Acute Effect
An adverse effect on a human or animal body, with severe symptoms developing rapidly and coming quickly to a crisis.

Acute Exposure
A dose that is delivered to the body in a single event or in a short period of time.

Aerobic
Occurring in the presence of free oxygen.

Alkaline
A substance with a pH between 7 and 14. An alkaline waste is considered hazardous when its pH is 12.5 or greater.

Ambient
Existing conditins of air, water, and other media at a particular time.

Anaerobic
Occurring in the absence of oxygen.

Assessment
analysis or examination.

Background Environmental Sample
Samples that are considered to contain no contaminants or known concentrations of contaminants.

Base
A substance which forms a salt when reacted with an acid. Bases have a pH of greater than seven.

Buffer Zone
An area of land which surrounds a hazardous waste facility and on which certain land uses and activities are restricted to protect the public health and safety and the environment from existing or potential hazards caused by the migration of hazardous waste (CH&SC Sec. 25110.3).

Carcinogen
A substance or agent capable of causing or producing cancer in mammals.

Caustics
A large class of substances which form solutions having a high pH.

Chronic Effect
An adverse effect on a human or animal body, with symptoms which develop slowly over a long period of time or which reoccur frequently.

Chronic Exposure
Low doses repeatedly received by the body over a long period of time.

Combustible
A term used by the NFPA, DOT, and others to classify certain liquids that will burn, on the basis of flash points. Both the NFPA and DOT generally define "combustible liquids" as having a flash point of 100° F or higher.

Concentration
The relative amount of a substance when combined or mixed with other substances.

Contingency Plan
A document setting out an organized, planned, and coordinated course of action to be followed in case of a fire or explosion or release of a hazardous waste from a TSD or a generator's facility that could threaten human health or the environment (RCRA).

Corrosive
As defined by DOT, a corrosive material is a liquid or solid that causes visible destruction or irreversible alterations in human skin tissue at the site of contact or in the case of leakage from its packaging a liquid that has a severe corrosion rate on steel. A solid or liquid which exhibits these characteristics can be regulated as hazardous waste.

Decomposition
Breakdown of material or substance (by heat, chemical reaction, electrolysis, decay, or other processes) into elements or simpler compounds.

Decontamination
The process of removing contaminants from individuals and equipment.

Deep Well Injection
Disposal of wastes by injecting them into a geological formation deep in the ground, sometimes after pretreatment to avoid solidification.

EPA ID Number
This unique number assigned by EPA to each generator, transporter, or TSD.

Effluent
Waste material, either treated or untreated, discharged into the environment.

Environmental Assessment
The measurement or prediction of the transport, dispersion, and final location of a hazardous substance when released into the environment.

Environmental Emergencies
Incidents involving the release (or potential release) of hazardous materials into the environment which require immediate remedial action.

Environmental Hazard
A condition capable of posing risk of exposure to air, water, soil, plants, or wildlife.

Exception Report
A report that generators who transport waste off-site must submit if they do not receive a properly completed copy of their manifest within 45 days of the date on which the initial transporter accepted the waste.

Generator
The person or facility who, by nature or ownership, management or control, is responsible for causing or allowing to be caused, the creation of hazardous waste.

Glovebag
A device used to remove a section of pipe insulation without isolating the entire space or room.

Groundwater Hydrology
The study of the movement of water below the earth's surface.

Hazard
A circumstance or condition that can cause harm. Hazards are often categorized into four groups: biological, chemical, physical, and radiation.

Hazard Classes
A series of nine descriptive terms that have been established by the UN Committee of Experts to categorize the hazardous nature of chemical, physical, and biological materials. These categories are: flammable liquids, explosives, gases, oxidizers, radioactive materials, corrosives, flammable solids, poisonous and infectious substances, and dangerous substances.

Hazardous Waste
Any material that is subject to the hazardous waste manifest requirements of the EPA specified in the CFR, Title 40, Part 262 or would be subject to these requirements in the absence of an interim authorization to a State under CFR, Title 40, Part 123, Subpart F.

Heavy Metals

Certain metallic elements having a high density and generally toxic, e.g., lead, silver, mercury, and arsenic.

Immediate Removal

Actions undertaken to prevent or mitigate immediate and significant risk of harm to human life or health or the environment. As set forth in the National Contingency Plan, these actions shall be terminated after $1 million has been obligated or six months have elapsed from the date of initial response.

Incident

The release or potential release of a hazardous substance into the environment.

Inert

Exhibiting no chemical activity; totally unreactive.

Innocent Land Owner's Defense

The defense of a purchaser of real property that he or she exercised due diligence in having hazards assessed prior to purchase.

Interim Status

Allows owners and operators of TSDs that were in existence, or for which construction had commenced, prior to November 19, 1980 to continue to operate without a permit after this date pending final issuance from RCRA.

Joint and Several Liability

Under federal law each party that contributed to damages may be held liable for all damages, but each has the right to compel the others to contribute and indemnify.

Liability

Being subject to legal action for one's behavior.

MSDS Material Safety Data Sheet

Required by OSHA of owners to alert employees to hazards, their effect, and protective action.

Manifest

Form which indicates generator, quantity, and type of waste for each shipment of hazardous wastes disposed in off-site facilities.

National Contingency Plan

Policies and procedures that the Federal Government follows in implementing responses to incidents involving hazardous substances.

P Wastes

A federal waste list comprised of substances categorized as acutely hazardous.

Part A

The first part of a two part application that must be submitted by a TSD to receive a permit. It contains general facility information.

Part B

The second part of a two part application that must be submitted by a TSD to receive a permit. It contains highly technical and detailed information.

Planned Removal

The removal of released hazardous substances from the environment within a non-immediate, long term time period. Under CERCLA: Actions intended to minimize increases in exposure such that time and cost commitments are limited to six months and/or $1 million.

Poison, Class A

A DOT term for extremely dangerous poisons, that is, poisonous gases or liquids of such nature that a very small amount of the gas, or vapor of the liquid, mixed with air is dangerous to life. Some examples: phosgene, cyanogen, and hydrocyanic acid.

Poison, Class B

A DOT term for liquid, solid, paste, or semisolid substances, other than Class A poisons, which are known to be toxic to man as to afford a hazard to health during transportation.

Pollutant

A substance or mixture which after release into the environment and upon exposure to any organisms will or may reasonably be anticipated to cause adverse effects in such organisms and their offspring.

Priority Pollutants

A list of chemicals selected from the list of toxic pollutants by the EPA as priority toxic pollutants for regulation under the Clean Water Act.

Remedial Actions

Responses to releases of hazardous substances on the NPL that are consistent with a permanent remedy which would prevent or mitigate the migration of materials into the environment.

Risk

The probability that an unwanted event will occur.

Second Responders

Those personnel required to assist or relieve first responders at a hazardous material incident due to their specialized knowledge, equipment, or experience. These include State environmental protection or health officials, commercial response, cleanup companies, and appropriate industry representatives.

Strict Liability

Holds a party responsible for damages irrespective of the amount of care taken in handling a hazardous substance.

Subtitle C

The part of RCRA which pertains to the management of hazardous waste.

Subtitle I

The part of RCRA which pertains to the storage of petroleum products and hazardous substances, other than wastes, in USTs.

Superfund

See CERCLA.

Synergistic

The action of two materials together which is greater in effect than the sum of the individuals actions.

TIGER Files

The US Census Bureau's TIGER files provide a nationwide computerized map with address range information.

Tort

A legal wrong, sometimes referred to as negligence.

Toxicity

The ability of a substance to produce injury by non-mechanical means once it reaches a susceptible site in or on the body.

U Wastes

A federal list of hazardous wastes which consists of substances deemed to be hazardous for hazards other than acute hazards.

-- Adapted from Lincoln Graduate Center, 1993 Real Estate Environmental Screening. San Antonio, Texas

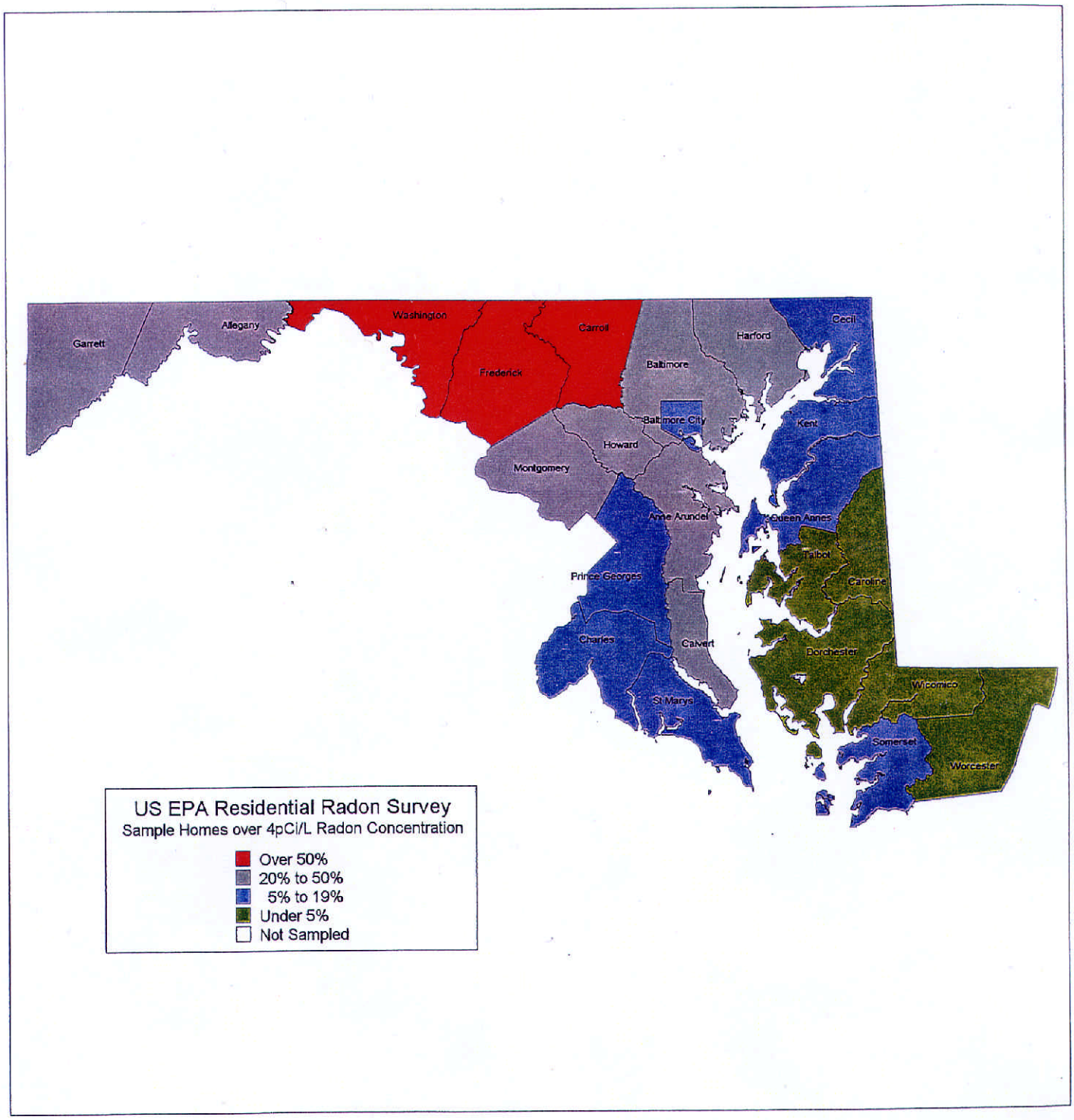
Acronyms and Abbreviations

-AIRS	Aerometric Information Retrieval System
-AST	Aboveground Storage Tank
-ASTM	American Society for Testing and Materials
-BLM	Bureau of Land Management
-BNA	Bureau of National Affairs
-CAA	Clean Air Act
-CDC	Centers for Disease Control
-CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
-CERCLIS	CERCLA Information System
-CICIS	Chemicals in Commerce Information System
-COE	U.S. Army Corps of Engineers
-CWA	Clean Water Act
-DDT	Dicholoro-diphenyl-dichloroethane
-DOC	Department of Commerce
-DOCKET	Enforcement Docket System--Office of Enforcement and Compliance Monitoring
-DOE	Department of Energy
-DOT	Department of Transportation
-EPA	Environmental Protection Agency
-ERCS	Emergency Response Cleanup Services
-ERNS	Emergency Response Notification System
-ESA	Environmental Site Assessment
-FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
-FINDS	Facility Index System
-FOIA	Freedom of Information Act
-FWPCA	Federal Water Pollution Control Act
-HHS	Department of Health and Human Services
-HSWA	Hazardous and Solid Waste Amendments of 1984
-HUD	Department of Housing and Urban Development
-LUST	Leaking Underground Storage Tank
-MSDS	Material Safety Data Sheet
-NEPA	National Environment Policy Act
-NESHAP	National Emission Standards for Hazardous Air Pollutants
-NFRAP	No Further Remedial Action Planned (Delisted CERCLA Site)
-NOI	Notice of Intent
-NOV	Notice of Violation
-NPDES	National Pollution Discharge Elimination System
-NPL	National Priorities List
-NRC	Nuclear Regulatory Commission
-NRIS	Nuclear Regulatory Information System
-OSHA	Occupational Safety and Health Administration

Acronyms and Abbreviations

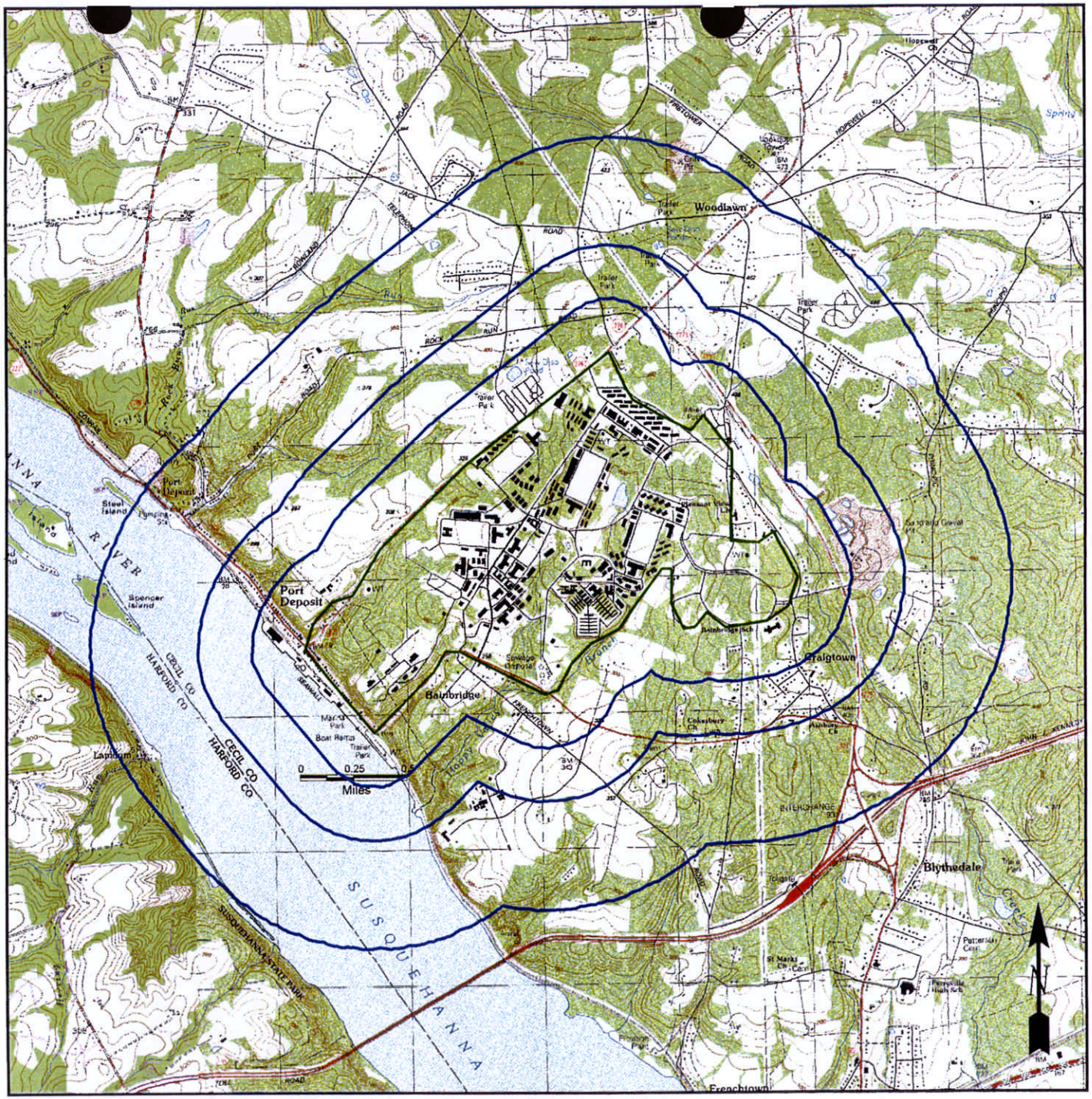
-PADS	PCB Activity Database System
-PCB	Polychlorinated Biphenyls
-POTW	Publicly-Owned Treatment Works
-PPM	Parts Per Million
-PRP	Potentially Responsible Parties
-RAATS	RCRA Administrative Action Tracking System
-RCRA	Resource Conservation and Recovery Act of 1976
-RCRIS	Resource Conservation and Recovery Information System
-RFA	RCRA Facility Assessment
-RFI	RCRA Facility Investigation
-RI	Remedial Investigation (CERCLA)
-SARA	Superfund Amendments and Reauthorization Act of 1986
-SCS	Soil Conservation Service
-SDWA	Safe Drinking Water Act
-SETS	Superfund Enforcement Tracking System
-SSTS	Section Seven Tracking System
-SWF/LF	Solid Waste Facilities / Landfills
-TIGER	Topologically Integrated Geographic Encoding and Referencing System
-TRI	Toxic Release Inventory
TSCA	Toxic Substances Control Act
-TSD	Treatment, Storage, or Disposal Facility
-USDA	U.S. Department of Agriculture
-USGS	U.S. Geological Survey
-UST	Underground Storage Tank
-WWTP	Wastewater Treatment Plant

EcoSearch Radon Risk Map for Maryland



SOURCE: EPA Map for Radon Zones (Maryland), September 1993. The data is based on the State/EPA Residential Radon Survey which was conducted in Maryland during the winters of 1990-91. This map shows the percentage of homes in each county registering over 4 pCi/L (picocuries per liter) radon concentration. For additional information on this survey, consult the next page.

Note: The information provided on this map is subject to the general disclaimer on page 2. This map is NOT intended to determine if a property in a given county should be tested for radon. Properties with elevated levels of radon have been found in all counties. If or when radon is a concern, all properties should be tested regardless of the county designation.



Source: United States Geological Survey, 7.5 minute Topographic Map (Digital Raster Graphics)

EcoSearch Environmental Resources, Inc.

USGS 7.5 Minute Topographical Map

Report ID: 1804-3801
Site: Naval Training Center - Bainbridge
Port Deposit, MD 21904

○ Study Site

Map Features are Color Coded

Black -- Cultural features such as roads and buildings.

Blue -- Hydrographic features such as lakes and rivers.

Brown -- Hypsographic (elevation) features shown by contour lines.

Green -- Woodland cover, scrub, orchards, and vineyards.

Red -- Important roads and public land survey system.

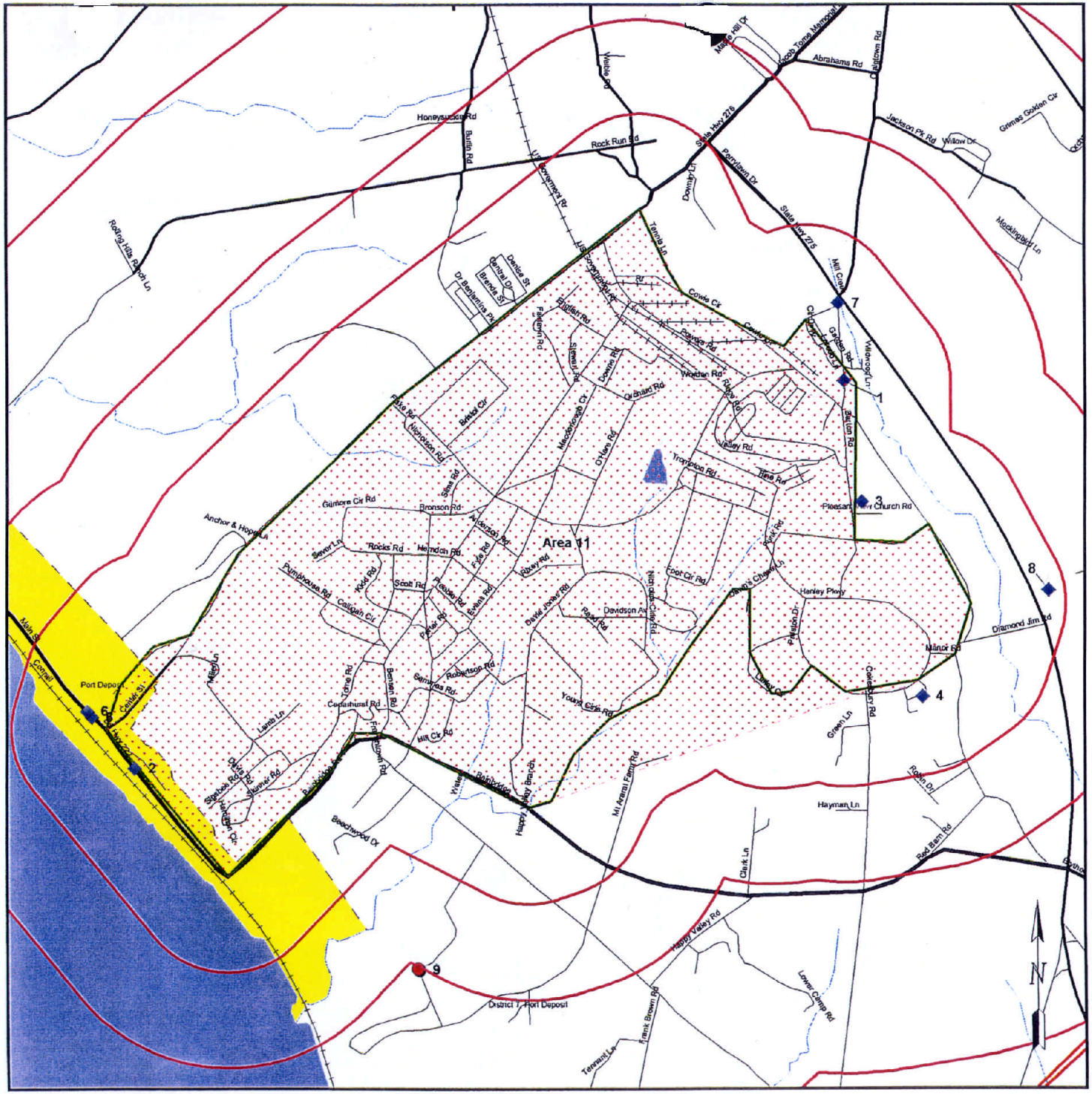
Purple -- Features added from aerial photographs during map revision. The changes are not field checked.

A detailed Topographic Map Symbols pamphlet is available from EcoSearch free upon request.

Radii: 0.25 mile, 0.50 mile, 1.00 mile

Topographical Maps:

Havre De Grace, MD -- 1992
Rising Sun, MD PA -- 1992



EcoSearch Environmental Resources, Inc.

Priority Risk Report Map

Report ID: 1804-3801

Site: Naval Training Center - Bainbridge
Port Deposit, MD 21904

Study Area

FEDERAL DATABASES	Radius (mi)
NPL Sites	1.00
CERCLA (Active) Sites	1.00
CERCLA (NFRAP Archive) Sites	1.00
RCRA TSD Sites	1.00
RCRA Generator Sites	0.25
CORRACTS Sites	1.00
ERNS Sites	0.25
PADS Sites	1.00
TRI Sites	0.50
SSTS Sites	1.00
DOCKET Sites	1.00
TSCA Sites	1.00

STATE DATABASES	
SML (HWS) Sites	1.00
SWF Sites	1.00
LUST Sites	0.50
UST Sites	0.25

MULTIPLE MATCHES / AREAS

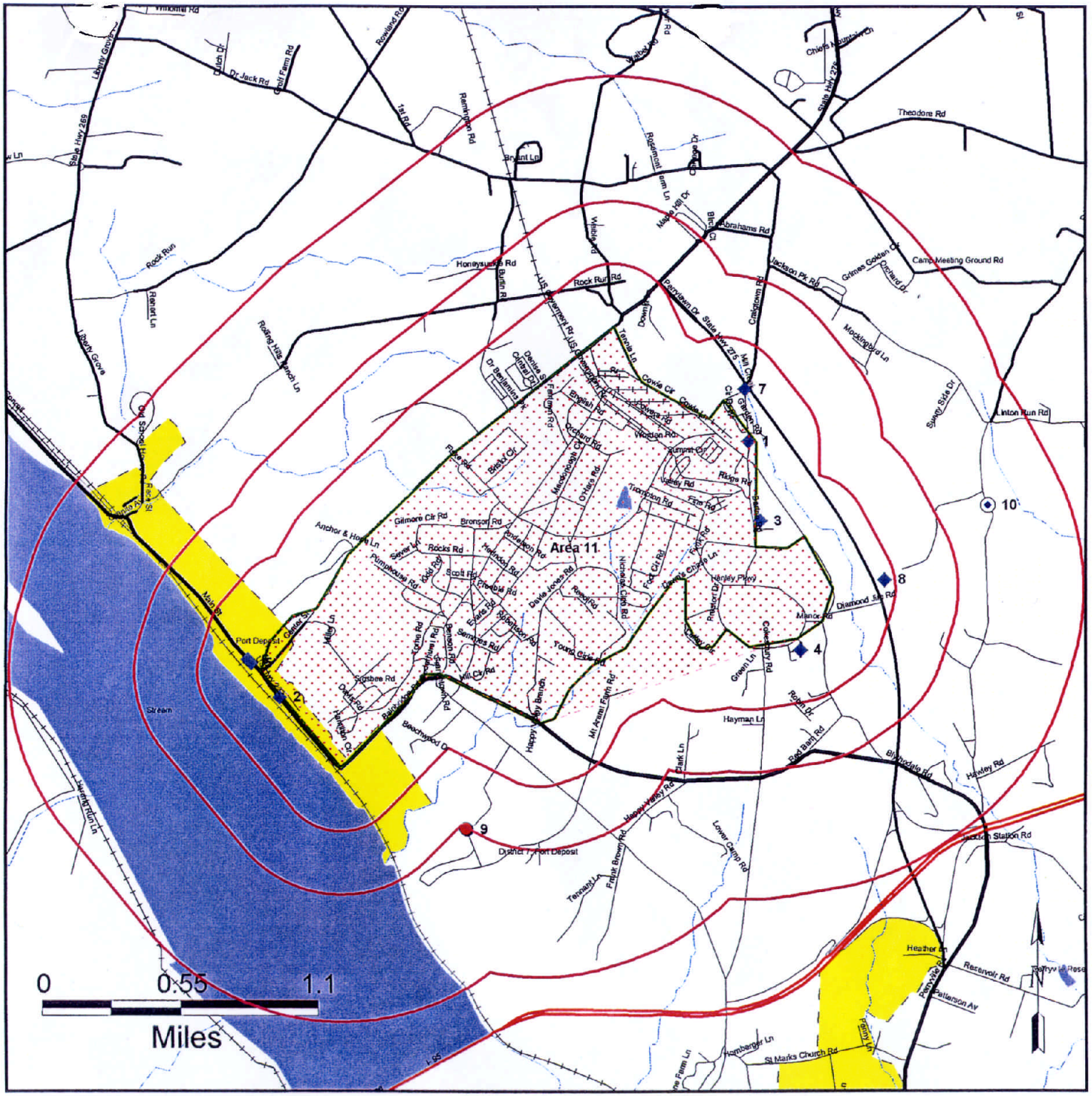
- Two Database Matches
- Three or More Matches
- Database Area Site

MAP LEGEND

- Parks
- Incorp. Areas
- Water
- Cemeteries
- Streets
- Secondary Roads
- Primary Roads
- Freeways
- Railroads
- Boundaries

Radii: 1/4 mile, 1/2 mile, 1 mile

Note: The information contained on this map is subject to the general disclaimer on the first page.



EcoSearch Environmental Resources, Inc.

Priority Risk Report Map

Report ID: 1804-3801
Site: Naval Training Center - Bainbridge
Port Deposit, MD 21904

Study Area

FEDERAL DATABASES	Radius (mi)
NPL Sites	1.00
CERCLA (Active) Sites	1.00
CERCLA (NFRAP Archive) Sites	1.00
RCRA TSD Sites	1.00
RCRA Generator Sites	0.25
CORRACTS Sites	1.00
ERNS Sites	0.25
PADS Sites	1.00
TRI Sites	0.50
SSTS Sites	1.00
DOCKET Sites	1.00
TSCA Sites	1.00

STATE DATABASES	
SML (HWS) Sites	1.00
SWF Sites	1.00
LUST Sites	0.50
UST Sites	0.25

MULTIPLE MATCHES / AREAS

- Two Database Matches
- Three or More Matches
- Database Area Site

MAP LEGEND

- Parks
- Incorp. Areas
- Water
- Cemeteries
- Streets
- Secondary Roads
- Primary Roads
- Freeways
- Railroads
- Boundaries

Radii: 1/4 mile, 1/2 mile, 1 mile

Note: The information contained on this map is subject to the general disclaimer on the first page.

COMMENT REPSONSE DOCUMENT
for
ENVIRONMENTAL BASELINE SURVEY (EBS)
NAVAL TRAINING CENTER-BAINBRIDGE
PORT DEPOSIT, MARYLAND

Ref: Pre-Final EBS for NTC-Bainbridge, September, 1999
EPA Review Comments, November 5, 1999

General Comment

1. The EBS lacks any discussion of protection of ecological receptors. Meeting the objectives identified in this document, "recommend areas of concern for no further action or further action," is impossible without a discussion of risk to ecological receptors. It is our understanding that a separate decision document dealing with ecological issues is forth coming. The current EBS should state that ecological issues are being addressed in a separate document.

Response:

The Navy will submit a separate letter report specifically addressing ecological issues. Ecological issues for Sites 1 and 2 have been addressed in the Remedial Investigation and the follow-on Human and Ecological Risk Characterization reports. The introduction in Section 1 has been revised to include the additional documentation, as requested.

Specific Comments

Comment:

1. Section 2.1.5.2: Describe what was done with transformers that had PCBs at less than 50 mg/L.

Response:

The 1982 PCB Survey performed by Atlantic Division of NAVFACENGCOM indicated that non-PCB transformers, i.e., those containing less than 50 ppm PCBs, per 40 CFR 761, were left in place and labeled as non-PCB transformers. Although several hundred transformers were located and characterized, the 1982 survey indicated that several transformers were found to be empty and vandalized. By the time that the EBS fence-to-fence survey was initiated in 1996, the vast majority of non-energized transformers on the NTC had been vandalized for the scrap metal value of the copper windings. Subsequently, the base-wide cleanup project recovered over 100 empty transformer casings; locations where empty casings were found were inspected, and soil samples were collected and analyzed for contamination, as appropriate. The few remaining non-PCB transformers that were located intact were inspected, reviewed vs the earlier inventory,

removed from service and drained of oil. These actions were performed for the Navy by OHM Remediation Services Corporation and documented in *Site Clean-Up and PCB Removal Actions Volume I –Contractor Close-Out Report.* According to the report the oil was stored in drums for disposal and the empty transformers were disposed of as scrap.

The text in Section 2.1.5.2 has been revised to briefly discuss the loss of transformers to vandalism.

Comment:

2. Define "housekeeping issue." Does this mean that the stains turned out to be dirt rather than chemicals?

Response:

In several instances, soil staining identified in the EBS Task 1 report were later reviewed and attributed to oil leaks from trucks, hydraulic fluid leaks from construction equipment, spills resulting from fueling of small powered equipment, and similar situations. The staining was perceived to be minor, arising from current operations rather than historical contamination releases, and were cleaned by the Navy outside of a regulatory framework without extensive documentation.

Comment:

3. Section 2.2.2.1: EPA did not agree that the maximum detected concentration should be "established as the background level."

Response:

Section 2.2.2.1 is a summary of the work performed comprehensively in the Task 2 Investigation. The Task 2 investigation initially included the maximum background concentration in the COPC selection process. The subsequent "Streamlined Human Health Risk Assessment" (EA 1999b) utilized a more conservative EPA approved COPC selection process and supported the results of the initial screening. The statement regarding the use of the maximum detected concentration as the background concentration has been removed from Section 2.2.2.1.

Comment:

4. Page 2-11, Bldg. 529; Table 2-4, page 2, Bldg. 529; Table 2-5, AOC 17: It does not appear that the final conditions at this building were officially documented.

Response:

Based on its narrative description as the Fuel Oil Pump House, the EBS Task 1 report recommended building 529 for further inspection and sampling. Later, the Fuel Oil Pump House was inspected by the Navy and EPA. The visual inspection failed to identify any contaminated

soils or stressed vegetation indicative of environmental concerns, thus no samples were collected for this site. Consequently, it was not identified as a Task 2 AOC.

Comment:

5. Page 2-18: EPA's assessment of AOC 2b yielded 4 COPCs, an HI of 1 or less, and cancer risks below 1E-5.

Response:

It is noted that EPA's assessment of AOC 2b yielded 4 COPCs, an HI of 1 or less, and cancer risks below 1E-5. The Navy believes the information is important and it will be included in the FOST. The cut off date for actions reported in the EBS, including studies, reports, and correspondence, is 1 September 1999.

Comment:

6. Page 2-18, 3rd paragraph: Explain that the 6.1 ug/dL value was the predicted geometric mean blood-lead concentration.

Response:

The recommended explanation has been added to page 2-18.

Comment:

7. Page 2-19: EPA's assessment of AOC 4 yielded a cancer risk of 6E-6.

Response:

It is noted that EPA's assessment of AOC 4 yielded a cancer risk of 6E-6. As in the Response to EPA Comment No. 4 above, the information will be included in the FOST. The cut off date for actions reported in the EBS, including studies, reports, and correspondence, is 1 September 1999.

Comment:

8. Page 2-20, 2nd paragraph: The 1,2-dibromo-3-chloropropane RBC is based on cancer effects. (The maximum exceeds the 1E-6 but not the 1E-4 level.)

Response:

The text has been revised to reflect that the1,2-dibromo-3-chloropropane RBC is based on cancer effects.

Comment:

9. Page 3-8, 2nd paragraph: The statement that after inspection, no visible transite was present, conflicts with statements made by MDE and the Navy and EPA's own observations in 1995. MDE personnel described a procedure in which they covered a

certain area of ground, picking up transite chips, and if the chips were below a certain number, the parcel was considered "clean" by the state. However, this did not mean that there were no transite chips.

Response:

The statement "no visible transite was present" is conveying that no transite chips were visible at the time of inspection. Transite chips may be present in the soil and the text has been revised to read "After the inspection no visible transite was present at the surface".

Comment:

10. Section 3.1.6, Ash Disposal Pit: EPA has reviewed the risk assessment. Although the dermal toxicity factors were somewhat higher (i.e., more conservative) than necessary, and the adult and child HIs should not have been summed, the analysis is otherwise accurate. The overall conclusion is unchanged: the metals found in samples 360, 361, 362, and 363 are not associated with cancer risks above 1E-4 or HIs above 1. It should be noted that this area is also called the "Ash Pile."

Response:

The Navy acknowledges that EPA has reviewed the risk assessment and found that although the dermal toxicity factors were somewhat higher (i.e., more conservative) than necessary, and the adult and child HIs should not have been summed, the analysis was otherwise accurate. The overall conclusion remains unchanged: the metals found in samples 360, 361, 362, and 363 are not associated with cancer risks above 1E-4 or HIs above 1. This information is important and It has been noted in Section 3.1.6 that this area is also called the "Ash Pile."

Comment:

11. Table 4-1, AOC 7: It is not clear why this is a Category 4 if the investigation is still open.

Response:

Since all actions to protect human health and the environment have been taken, AOC 7, the Former Gas Station (Building 756A), was listed as Category 4. The closure assessment from MDE is pending, but that status is not category dependent. Based on recent discussions with MDE, a letter stating MDE's concurrence to close this case and associated monitoring is forthcoming, and "No Further Action" will be reported in the FOST.

Comment:

12. Table 4-1, AOCs 9 and 11: It is not clear why these are Category 4; there are not yet RODs or construction completions for these sites.

Response:

It is the Navy's belief that all cleanup actions necessary to protect human health and the environment have been taken, thus AOC 9, the Old Base Landfill and AOC 11, the Fire Training Area, were listed as Category 4. As indicated in the Proposed Plan Completion of the draft

ROD, long term monitoring is expected for groundwater at the Old Landfill, however, completion of the ROD is not necessary for the category listing.

Comment:

13. Table 4-1: Explain why AOC 37 is Category 1.

Response:

AOC 37 Asbestos Materials (Good Condition) – There has been no release or disposal of CERCLA hazardous substances or petroleum products at this AOC, thus it is listed as Category 1. However, the presence of asbestos material locations will be disclosed in the FOST and the transfer deed.